

Glossary



- acceptance testing** Conducting any tests required by the user.
- accounting systems** Systems that include budget, accounts receivable, payroll, asset management, and general ledger.
- ad hoc DSS** A DSS concerned with situations or decisions that come up only a few times during the life of the organization.
- alignment** When the output from an information system is exactly what is needed to help a company achieve its strategic goals, the two are said to be in alignment.
- alpha testing** Testing an incomplete or early version of the system.
- analogue signal** A variable signal continuous in both time and amplitude so that any small fluctuations in the signal are meaningful.
- antivirus program** Software that runs in the background to protect your computer from dangers lurking on the Internet and other possible sources of infected files.
- applet** A small program embedded in web pages.
- application flowcharts** Diagrams that show relationships among applications or systems.
- application program interface (API)** An interface that allows applications to make use of the operating system.
- application service provider (ASP)** A company that provides software, support, and the computer hardware on which to run the software from the user's facilities.
- applications portfolio** A scheme for classifying information systems according to the contribution they make to the organization.
- arithmetic/logic unit (ALU)** The part of the CPU that performs mathematical calculations and makes logical comparisons.
- ARPANET** A project started by the U.S. Department of Defense (DoD) in 1969 as both an experiment in reliable networking and a means to link DoD and military research contractors, including many universities doing military-funded research.
- artificial intelligence (AI)** The ability of computer systems to mimic or duplicate the functions or characteristics of the human brain or intelligence.
- artificial intelligence systems** People, procedures, hardware, software, data, and knowledge needed to develop computer systems and machines that demonstrate characteristics of intelligence.
- asking directly** An approach to gather data that asks users, stakeholders, and other managers about what they want and expect from the new or modified system.
- asynchronous communication** A form of communications where there is a measurable delay between the sending and receiving of the message, sometimes hours or even days.
- auditing** Analyzing the financial condition of an organization and determining whether financial statements and reports produced by the financial MIS are accurate.
- B2Me** A form of e-commerce where the business treats each customer as a separate market segment. Typical B2Me features include customizing a website for each customer, perhaps based on their previous purchases and personalized (electronic) marketing literature.
- backbone** One of the Internet's high-speed, long-distance communications links.
- backward chaining** The process of starting with conclusions and working backward to the supporting facts.
- batch processing system** A form of data processing where business transactions are accumulated over a period of time and prepared for processing as a single unit or batch.
- benchmark test** An examination that compares computer systems operating under the same conditions.
- best practices** The most efficient and effective ways to complete a business process.
- beta testing** Testing a complete and stable system by end users.
- biometrics** The measurement of one of a person's traits, whether physical or behavioural.
- blade server** A server that houses many individual computer motherboards that include one or more processors, computer memory, computer storage, and computer network connections.
- blog** An online diary, a combination of the words 'web' and 'log'.
- brainstorming** A decision-making approach that often consists of members offering ideas 'off the top of their heads'.
- bridge** A telecommunications device that connects one LAN to another LAN that uses the same telecommunications protocol.
- broadband communications** A telecommunications system in which a very high rate of data exchange is possible.
- business intelligence** The process of gathering enough of the right information in a timely manner and usable form and analyzing it to have a positive impact on business strategy, tactics, or operations.

- business-to-business (B2B) e-commerce** A subset of e-commerce where all the participants are organizations.
- business-to-consumer (B2C) e-commerce** A form of e-commerce in which customers deal directly with an organization and avoid intermediaries.
- byte (B)** Eight bits that together represent a single character of data.
- cache memory** A type of high-speed memory that a processor can access more rapidly than main memory.
- cardinality** In a relationship, cardinality is the number of one entity that can be related to another entity.
- CASE repository** A database of system descriptions, parameters, and objectives.
- central processing unit (CPU)** The part of the computer that consists of three associated elements: the arithmetic/logic unit, the control unit, and the register areas.
- centralized processing** Processing alternative in which all processing occurs at a single location or facility.
- certification** A process for testing skills and knowledge, which results in a statement by the certifying authority that states an individual is capable of performing a particular kind of job.
- channel bandwidth** The rate at which data is exchanged over a communications channel, usually measured in bits per second (bps).
- chief knowledge officer (CKO)** A top-level executive who helps the organization use a KMS to create, store, and use knowledge to achieve organizational goals.
- chief programmer team** A group of skilled IS professionals who design and implement a set of programs.
- choice stage** The third stage of decision making, which requires selecting a course of action.
- client/server** An architecture in which multiple computer platforms are dedicated to special functions such as database management, printing, communications, and program execution.
- clock speed** A series of electronic pulses produced at a predetermined rate that affects machine cycle time.
- code of ethics** A code that states the principles and core values that are essential to a set of people and, therefore, govern their behaviour.
- cold site** A computer environment that includes rooms, electrical service, telecommunications links, data storage devices, and the like; also called a 'shell'.
- command line interface** An interface where the user types text commands to the computer.
- command-based user interface** A user interface that requires you to give text commands to the computer to perform basic activities.
- communications protocol** A set of rules that governs the exchange of information over a communications channel.
- compact disk read-only memory (CD-ROM)** A common form of optical disk on which data, once it has been recorded, cannot be modified.
- competitive advantage** The ability of a firm to outperform its industry, that is, to earn a higher rate of profit than the industry norm.
- competitive intelligence** One aspect of business intelligence limited to information about competitors and the ways that knowledge affects strategy, tactics, and operations.
- compiler** A special software program that converts the programmer's source code into the machine-language instructions consisting of binary digits.
- computer literacy** Knowledge of computer systems and equipment and the ways they function; it stresses equipment and devices (hardware), programs and instructions (software), databases, and telecommunications.
- computer network** The communications media, devices, and software needed to connect two or more computer systems and/or devices.
- computer program** A sequence of instructions for the computer.
- computer supported cooperative work** A term that refers to technologies which allow groups to work together to achieve goals.
- computer-aided manufacturing (CAM)** A system that directly controls manufacturing equipment.
- computer-aided software engineering (CASE)** Tools that automate many of the tasks required in a systems development effort and encourage adherence to the SDLC.
- computer-based information system (CBIS)** A single set of hardware, software, databases, telecommunications, people, and procedures that are configured to collect, manipulate, store, and process data into information.
- computer-integrated manufacturing (CIM)** Using computers to link the components of the production process into an effective system.
- concurrency control** A method of dealing with a situation in which two or more people need to access the same record in a database at the same time.
- consumer-to-consumer (C2C) e-commerce** A subset of e-commerce that involves consumers selling directly to other consumers.
- continuous improvement** Constantly seeking ways to improve business processes to add value to products and services.
- control unit** The part of the CPU that sequentially accesses program instructions, decodes them, and coordinates the flow of data in and out of the ALU, registers, primary storage, and even secondary storage and various output devices.
- coprocessor** The part of the computer that speeds processing by executing specific types of instructions while the CPU works on another processing activity.
- cost-benefit analysis** An approach that lists the costs and benefits of each proposed system. After they are expressed in monetary terms, all the costs are compared with all the benefits.
- counterintelligence** The steps an organization takes to protect information sought by 'hostile' intelligence gatherers.
- cracker** A person who enjoys computer technology and spends time learning and using computer systems.
- creative analysis** The investigation of new approaches to existing problems.
- criminal hacker (cracker)** A computer-savvy person who attempts to gain unauthorized or illegal access to

computer systems to steal passwords, corrupt files and programs, or even transfer money.

critical analysis The unbiased and careful questioning of whether system elements are related in the most effective ways.

critical path Activities that, if delayed, would delay the entire project.

critical success factors (CSFs) Factors that are essential to the success of a functional area of an organization.

cross-platform development A development technique that allows programmers to develop programs that can run on computer systems having different hardware and operating systems, or platforms.

customer relationship management (CRM) system

A system that helps a company manage all aspects of customer encounters, including marketing and advertising, sales, customer service after the sale, and programs to retain loyal customers.

cyberterrorist Someone who intimidates or coerces a government or organization to advance his or her political or social objectives by launching computer-based attacks against computers, networks, and the information stored on them.

data administrator A non-technical position responsible for defining and implementing consistent principles for a variety of data issues.

data analysis The manipulation of collected data so that the development team members who are participating in systems analysis can use the data.

database An organized collection of information.

database administrator (DBA) The role of the database administrator is to plan, design, create, operate, secure, monitor, and maintain databases.

data collection Capturing and gathering all data necessary to complete the processing of transactions.

data correction The process of re-entering data that was not typed or scanned properly.

data definition language (DDL) A collection of instructions and commands used to define and describe data and relationships in a specific database.

data dictionary A detailed description of all the data used in the database.

data editing The process of checking data for validity and completeness.

data entry Converting human-readable data into a machine-readable form.

data-flow diagram (DFD) A model of objects, associations, and activities that describes how data can flow between and around various objects.

data-flow line Arrows that show the direction of data element movement.

data input Transferring machine-readable data into the system.

data manipulation The process of performing calculations and other data transformations related to business transactions.

data manipulation language (DML) The commands that are used to manipulate the data in a database.

data mining The process of analyzing data to try to discover patterns and relationships within the data.

data preparation (data conversion) Ensuring all files and databases are ready to be used with new computer software and systems.

data storage The process of updating one or more databases with new transactions.

data store Representation of a storage location for data.

data warehouse A database or collection of databases that collects business information from many sources in the enterprise, covering all aspects of the company's processes, products, and customers.

decentralized processing Processing alternative in which processing devices are placed at various remote locations.

decision-making phase The first part of problem solving, including three stages: intelligence, design, and choice.

decision support system (DSS) An organized collection of people, procedures, software, databases, and devices used to support problem-specific decision making.

degree The number of entities involved in a relationship.

demand report A report developed to give certain information at someone's request.

design report The primary result of systems design, reflecting the decisions made and preparing the way for systems implementation.

design stage The second stage of decision making, in which alternative solutions to the problem are developed.

desktop computer A relatively small, inexpensive, single-user computer that is highly versatile.

dialogue manager A user interface that allows decision makers to easily access and manipulate the DSS and to use common business terms and phrases.

digital audio player A device that can store, organize, and play digital music files.

digital camera An input device used with a PC to record and store images and video in digital form.

digital signal A signal that represents bits.

digital versatile disk (DVD) A storage medium used to store digital video or computer data.

direct access A retrieval method in which data can be retrieved without the need to read and discard other data.

direct access storage device (DASD) A device used for direct access of secondary storage data.

direct conversion Stopping the old system and starting the new system on a given date.

direct observation Watching the existing system in action by one or more members of the analysis team.

disaster planning The process of anticipating and providing for disasters.

disaster recovery The implementation of the disaster plan.

disk mirroring A process of storing data that provides an exact copy that protects users fully in the event of data loss.

distributed database A database in which the data is spread across several smaller databases connected via telecommunications devices.

distributed processing Processing alternative in which computers are placed at remote locations but are connected to each other via a network.

- document production** The process of generating output records and reports.
- documentation** The text that describes the program functions to help the user operate the computer system.
- domain** The area of knowledge addressed by the expert system.
- domain expert** The individual or group who has the expertise or knowledge one is trying to capture in the expert system.
- downsizing** Reducing the number of employees to cut costs.
- drill-down report** A report providing increasingly detailed data about a situation.
- e-commerce** Any business transaction executed electronically between companies (business-to-business), companies and consumers (business-to-consumer), consumers and other consumers (consumer-to-consumer), business and the public sector, and consumers and the public sector.
- economic feasibility** The determination of whether the project makes financial sense and whether predicted benefits offset the cost and time needed to obtain them.
- economic order quantity (EOQ)** The quantity that should be reordered to minimize total inventory costs.
- effectiveness** A measure of the extent to which a system achieves its goals; it can be computed by dividing the goals actually achieved by the total of the stated goals.
- efficiency** A measure of what is produced divided by what is consumed.
- e-government** The use of information and communications technology to simplify the sharing of information, speed formerly paper-based processes, and improve the relationship between citizen and government.
- electronic bill presentment** A method of billing whereby a vendor posts an image of your statement on the Internet and alerts you by e-mail that your bill has arrived.
- electronic business (e-business)** Using information systems and the Internet to perform all business-related tasks and functions.
- electronic commerce** Conducting business transactions (e.g., distribution, buying, selling, and servicing) electronically over computer networks such as the Internet, extranets, and corporate networks.
- electronic exchange** An electronic forum where manufacturers, suppliers, and competitors buy and sell goods, trade market information, and run back-office operations.
- electronic retailing (e-tailing)** The direct sale from business to consumer through electronic storefronts, typically designed around an electronic catalogue and shopping cart model.
- e-money** The transfer of funds electronically rather than by handing over physical coins and notes.
- empowerment** Giving employees and their managers more responsibility and authority to make decisions, take certain actions, and have more control over their jobs.
- end-user systems development** Any systems development project in which the primary effort is undertaken by a combination of business managers and users.
- enterprise resource planning (ERP) system** A set of integrated programs capable of managing a company's vital business operations for an entire multi-site, global organization.
- enterprise rules** The rules governing relationships between entities.
- entity** A person, place or thing about whom or about which an organization wants to store data.
- entity symbol** Representation of either a source or destination of a data element.
- ergonomics** The science of designing machines, products, and systems to maximize the safety, comfort, and efficiency of the people who use them.
- event-driven review** A review triggered by a problem or opportunity such as an error, a corporate merger, or a new market for products.
- exception report** A report automatically produced when a situation is unusual or requires management action.
- execution time (e-time)** The time it takes to execute an instruction and store the results.
- executive support system (ESS)** Specialized DSS that includes all hardware, software, data, procedures, and people used to assist senior-level executives within the organization.
- expert system** Hardware and software that stores knowledge and makes inferences, similar to a human expert.
- explanation facility** Component of an expert system that allows a user or decision maker to understand how the expert system arrived at certain conclusions or results.
- Extensible Markup Language (XML)** The markup language for web documents containing structured information, including words, pictures, and other elements.
- extranet** A network based on web technologies that allows selected outsiders, such as business partners, suppliers, or customers, to access authorized resources of a company's intranet.
- feasibility analysis** Assessment of the technical, economic, legal, operational, and schedule feasibility of a project.
- feedback** Output that is used to make changes to input or processing activities.
- field** A characteristic or attribute of an entity that is stored in the database.
- File Transfer Protocol (FTP)** A protocol that describes a file transfer process between a host and a remote computer and allows users to copy files from one computer to another.
- final evaluation** A detailed investigation of the proposals offered by the vendors remaining after the preliminary evaluation.
- financial MIS** A management information system that provides financial information not only for executives but also for a broader set of people who need to make better decisions on a daily basis.
- five-forces model** A widely accepted model that identifies five key factors that can lead to attainment of competitive advantage, including (1) the rivalry among existing competitors, (2) the threat of new entrants, (3) the threat of substitute products and services, (4) the bargaining power of buyers, and (5) the bargaining power of suppliers.

- flash memory** A silicon computer chip that, unlike RAM, is non-volatile and keeps its memory when the power is shut off.
- flat organizational structure** An organizational structure with a reduced number of management layers.
- flexible manufacturing system (FMS)** An approach that allows manufacturing facilities to rapidly and efficiently change from making one product to making another.
- forecasting** Predicting future events.
- foreign key** When a primary key is posted into another table to create a relationship between the two, it is known as a foreign key.
- forward chaining** The process of starting with the facts and working forward to the conclusions.
- front-end processor** A special-purpose computer that manages communications to and from a computer system serving hundreds or even thousands of users.
- future strategic application** Future strategic applications are ideas for systems which, if fully developed and deployed, might one day become strategic applications.
- Gantt chart** A graphical tool used for planning, monitoring, and coordinating projects.
- gateway** A telecommunications device that serves as an entrance to another network.
- genetic algorithm** An approach to solving large, complex problems in which a number of related operations or models change and evolve until the best one emerges.
- geographic information system (GIS)** A computer system capable of assembling, storing, manipulating, and displaying geographic information, that is, data identified according to its location.
- gigahertz (GHz)** Billions of cycles per second.
- global positioning system (GPS)** A navigation system that enables a receiver to determine its precise location.
- goal-seeking analysis** The process of determining the problem data required for a given result.
- graphical user interface (GUI)** An interface that allows users to manipulate icons and menus displayed on screen to send commands to the computer system.
- grid chart** A table that shows relationships among the various aspects of a systems development effort.
- grid computing** The use of a collection of computers, often owned by multiple individuals or organizations, to work in a coordinated manner to solve a common problem.
- group consensus** Decision making by a group that is appointed and given the responsibility of making the final evaluation and selection.
- group consensus approach** A decision-making approach that forces members in the group to reach a unanimous decision.
- group support system (GSS)** Software application that consists of most elements in a DSS, plus software to provide effective support in group decision making; also called 'group decision support system'.
- handheld computer** A single-user computer that provides ease of portability because of its small size.
- hardware** Any machinery (most of which uses digital circuits) that assists in the input, processing, storage, and output activities of an information system.
- heuristics** Commonly accepted guidelines or procedures that usually find a good solution.
- highly structured problems** Problems that are straightforward and require known facts and relationships.
- home page** A cover page for a website that has graphics, titles, and text.
- hot site** A duplicate, operational hardware system or immediate access to one through a specialized vendor.
- hotspot** An area where wi-fi wireless Internet access is available.
- HTML tags** Codes that let the web browser know how to format text – as a heading, as a list, or as body text – and whether images, sound, or other elements should be inserted.
- human resource MIS (HRMIS)** An information system that is concerned with activities related to employees and potential employees of an organization, also called a personnel MIS.
- hypermedia** An extension of hypertext where the data, including text, images, video and other media, on web pages is connected allowing users to access information in whatever order they wish.
- hypertext** Text used to connect web pages, allowing users to access information in whatever order they wish.
- Hypertext Markup Language (HTML)** The standard page description language for web pages.
- IF-THEN statements** Rules that suggest certain conclusions
- implementation stage** A stage of problem solving in which a solution is put into effect.
- incremental backup** Making a backup copy of all files changed during the last few days or the last week.
- inference engine** Part of the expert system that seeks information and relationships from the knowledge base and provides answers, predictions, and suggestions the way a human expert would.
- information system (IS)** A set of interrelated components that collect, manipulate, store, and disseminate information and provide a feedback mechanism to meet an objective.
- information systems literacy** Knowledge of how data and information are used by individuals, groups, and organizations.
- information systems planning** Translating strategic and organizational goals into systems development initiatives.
- input** The activity of gathering and capturing data.
- insider** An employee, disgruntled or otherwise, working solo or in concert with outsiders to compromise corporate systems.
- installation** The process of physically placing the computer equipment on the site and making it operational.
- institutional DSS** A DSS that handles situations or decisions that occur more than once, usually several times per year or more. An institutional DSS is used repeatedly and refined over the years.

- instruction time (I-time)** The time it takes to perform the fetch-instruction and decode-instruction steps of the instruction phase.
- integrated development environments (IDEs)** A development approach that combines the tools needed for programming with a programming language into one integrated package.
- integration testing** Testing all related systems together.
- intelligence stage** The first stage of decision making, in which potential problems or opportunities are identified and defined.
- intelligent agent** Programs and a knowledge base used to perform a specific task for a person, a process, or another program; also called intelligent robot or bot.
- intelligent behaviour** The ability to learn from experiences and apply knowledge acquired from experience, handle complex situations, solve problems when important information is missing, determine what is important, react quickly and correctly to a new situation, understand visual images, process and manipulate symbols, be creative and imaginative, and use heuristics.
- interactive whiteboard** This term can be used to mean slightly different technologies, but essentially it is a combination of a whiteboard and a desktop computer.
- international network** A network that links users and systems in more than one country.
- Internet** The world's largest computer network, actually consisting of thousands of interconnected networks, all freely exchanging information.
- Internet Protocol (IP)** A communication standard that enables traffic to be routed from one network to another as needed.
- Internet service provider (ISP)** Any company that provides people or organizations with access to the Internet.
- intranet** An internal company network built using Internet and World Wide Web standards and products that allows people within an organization to exchange information and work on projects.
- intrusion detection system (IDS)** Software that monitors system and network resources and notifies network security personnel when it senses a possible intrusion.
- Java** An object-oriented programming language from Sun Microsystems based on C++ that allows small programs (applets) to be embedded within an HTML document.
- joint application development (JAD)** A process for data collection and requirements analysis in which users, stakeholders, and IS professionals work together to analyze existing systems, propose possible solutions, and define the requirements of a new or modified system.
- just-in-time (JIT) inventory** A philosophy of inventory management in which inventory and materials are delivered just before they are used in manufacturing a product.
- kernel** The heart of the operating system, which controls the most critical processes.
- key-indicator report** A summary of the previous day's critical activities; typically available at the beginning of each workday.
- key operational application** Key operational applications are essential. Without them the organization could not conduct business.
- key-operational systems** Systems that play a pivotal role in an organization's continued operations and goal attainment.
- knowledge acquisition facility** Part of the expert system that provides convenient and efficient means of capturing and storing all the components of the knowledge base.
- knowledge base** A component of an expert system that stores all relevant information, data, rules, cases, and relationships used by the expert system.
- knowledge engineer** A person who has training or experience in the design, development, implementation, and maintenance of an expert system.
- knowledge user** The person or group who uses and benefits from the expert system.
- LCD display** Flat display that uses liquid crystals – organic, oil-like material placed between two polarizers – to form characters and graphic images on a backlit screen.
- learning systems** A combination of software and hardware that allows the computer to change how it functions or reacts to situations based on feedback it receives.
- legal feasibility** The determination of whether laws or regulations may prevent or limit a systems development project.
- local area network (LAN)** A computer network that connects computer systems and devices within a small area, such as an office, home, or several floors in a building.
- logical design** A description of the functional requirements of a system.
- machine cycle** The instruction phase followed by the execution phase.
- magnetic disk** A common secondary storage medium, with bits represented by magnetized areas.
- magnetic stripe card** A type of card that stores limited amounts of data by modifying the magnetism of tiny iron-based particles contained in a band on the card.
- magnetic tape** A secondary storage medium; Mylar film coated with iron oxide with portions of the tape magnetized to represent bits.
- mainframe computer** A large, powerful computer often shared by hundreds of concurrent users connected to the machine via terminals.
- maintenance team** A special IS team responsible for modifying, fixing, and updating existing software.
- make-or-buy decision** The decision regarding whether to obtain the necessary software from internal or external sources.
- management information system (MIS)** An organized collection of people, procedures, software, databases, and devices that provides routine information to managers and decision makers.
- market segmentation** The identification of specific markets to target them with advertising messages.

- marketing MIS** An information system that supports managerial activities in product development, distribution, pricing decisions, and promotional effectiveness.
- massively parallel processing systems** A form of multi-processing that speeds processing by linking hundreds or thousands of processors to operate at the same time, or in parallel, with each processor having its own bus, memory, disks, copy of the operating system, and applications.
- material requirements planning (MRP)** A set of inventory-control techniques that help coordinate thousands of inventory items when the demand of one item is dependent on the demand for another.
- megahertz (MHz)** Millions of cycles per second.
- menu-driven system** A system in which users simply pick what they want to do from a list of alternatives.
- mesh networking** A way to route communications between network nodes (computers or other device) by allowing for continuous connections and reconfiguration around blocked paths by 'hopping' from node to node until a connection can be established.
- metropolitan area network (MAN)** A telecommunications network that connects users and their devices in a geographical area that spans a campus or city.
- microcode** Predefined, elementary circuits and logical operations that the processor performs when it executes an instruction.
- middleware** Software that allows different systems to communicate and exchange data.
- MIPS** Millions of instructions per second.
- mobile commerce (m-commerce)** Conducting business transactions electronically using mobile devices such as smartphones.
- model base** Part of a DSS that provides decision makers access to a variety of models and assists them in decision making.
- model management software** Software that coordinates the use of models in a DSS.
- modem** A telecommunications hardware device that converts (modulates and demodulates) communications signals so they can be transmitted over the communication media.
- monitoring stage** The final stage of the problem-solving process, in which decision makers evaluate the implementation.
- Moore's Law** A hypothesis that states that transistor densities on a single chip double every 18 months.
- MP3** A standard format for compressing a sound sequence into a small file.
- multicore microprocessor** A microprocessor that combines two or more independent processors into a single computer so they can share the workload and deliver a big boost in processing capacity.
- multiple instruction/multiple data (MIMD)** A form of parallel computing in which the processors all execute different instructions.
- multiplexer** A device that encodes data from two or more data sources onto a single communications channel, thus reducing the number of communications channels needed and therefore, lowering telecommunications costs.
- multiprocessing** The simultaneous execution of two or more instructions at the same time.
- narrowband communications** A telecommunications system that supports a much lower rate of data exchange than broadband.
- natural language processing** Processing that allows the computer to understand and react to statements and commands made in a 'natural' language, such as English.
- net present value** The preferred approach for ranking competing projects and determining economic feasibility.
- network** Computers and equipment that are connected in a building, around the country, or around the world to enable electronic communications.
- network-attached storage (NAS)** Storage devices that attach to a network instead of to a single computer.
- network-management software** Software that enables a manager on a networked desktop to monitor the use of individual computers and shared hardware (such as printers), scan for viruses, and ensure compliance with software licences.
- network operating system (NOS)** Systems software that controls the computer systems and devices on a network and allows them to communicate with each other.
- neural network** A computer system that attempts to simulate the functioning of a human brain.
- nominal group technique** A decision-making approach that encourages feedback from individual group members, and the final decision is made by voting, similar to the way public officials are elected.
- non-operational prototype** A mock-up, or model, that includes output and input specifications and formats.
- non-programmed decision** A decision that deals with unusual or exceptional situations that can be difficult to quantify.
- object-oriented database** A database that stores both data and its processing instructions.
- object-oriented database management system (OODBMS)** A group of programs that manipulate an object-oriented database and provide a user interface and connections to other application programs.
- object-relational database management system (ORDBMS)** A DBMS capable of manipulating audio, video, and graphical data.
- on-demand computing** Contracting for computer resources to rapidly respond to an organization's varying workflow. Also called 'on-demand business' and 'utility computing'.
- online analytical processing (OLAP)** Software that allows users to explore data from a number of perspectives.
- online transaction processing (OLTP)** A form of data processing where each transaction is processed immediately, without the delay of accumulating transactions into a batch.
- operating system (OS)** A set of computer programs that controls the computer hardware and acts as an interface with application programs.
- operational feasibility** The measure of whether the project can be put into action or operation.

- operational prototype** A functioning prototype that accesses real data files, edits input data, makes necessary computations and comparisons, and produces real output.
- optical disk** A rigid disk of plastic onto which data is recorded by special lasers that physically burn pits in the disk.
- optimization model** A process to find the best solution, usually the one that will best help the organization meet its goals.
- optionality** If a binary relationship is optional for an entity, that entity doesn't have to be related to the other.
- organization** A formal collection of people and other resources established to accomplish a set of goals.
- organizational change** The responses that are necessary so that for-profit and non-profit organizations can plan for, implement, and handle change.
- organizational learning** The adaptations to new conditions or alterations of organizational practices over time.
- organizational structure** Organizational subunits and the way they relate to the overall organization.
- output** Production of useful information, often in the form of documents and reports.
- outsourcing** Contracting with outside professional services to meet specific business needs.
- parallel computing** The simultaneous execution of the same task on multiple processors to obtain results faster.
- Parallel running** Running both the old and the new systems for a period of time.
- parallel start-up** Running both the old and new systems for a period of time and comparing the output of the new system closely with the output of the old system; any differences are reconciled. When users are comfortable that the new system is working correctly, the old system is eliminated.
- patch** A minor change to correct a problem or make a small enhancement. It is usually an addition to an existing program.
- perceptive system** A system that approximates the way a person sees, hears, and feels objects.
- personal area network (PAN)** A network that supports the interconnection of information technology within a range of three metres or so.
- personal robotics** A term which refers to robotic companions that people socialize with.
- pervasive computing** A term meaning the move of the computer away from the desktop and towards something that is all around us, all the time.
- phase-in approach** Slowly replacing components of the old system with those of the new one. This process is repeated for each application until the new system is running every application and performing as expected; also called a piecemeal approach.
- phicon** Phicon stands for 'physical icon', and is a physical representation of digital data, in the same way that an icon on a computer screen represents a file.
- physical design** The specification of the characteristics of the system components necessary to put the logical design into action.
- pilot running** Introducing the new system by direct conversion for one group of users rather than all users.
- pipelining** A form of CPU operation in which multiple execution phases are performed in a single machine cycle.
- pixel** A dot of colour on a photo image or a point of light on a display screen.
- Platform for Privacy Preferences (P3P)** A screening technology that shields users from websites that don't provide the level of privacy protection they desire.
- podcast** An audio broadcast over the Internet.
- point evaluation system** An evaluation process in which each evaluation factor is assigned a weight, in percentage points, based on importance. Then each proposed system is evaluated in terms of this factor and given a score ranging from 0 to 100. The scores are totalled, and the system with the greatest total score is selected.
- point-of-sale (POS) device** A terminal used in retail operations to enter sales information into the computer system.
- policy-based storage management** Automation of storage using previously defined policies.
- portable computer** A computer small enough to be carried easily.
- predictive analysis** A form of data mining that combines historical data with assumptions about future conditions to predict outcomes of events such as future product sales or the probability that a customer will default on a loan.
- preliminary evaluation** An initial assessment whose purpose is to dismiss the unwanted proposals; begins after all proposals have been submitted.
- primary key** A field in a table that is unique – each record in that table has a different value in the primary key field. The primary key is used to uniquely identify each record, and to create relationships between tables.
- primary storage** (main memory; memory) The part of the computer that holds program instructions and data. Primary storage, also called main memory or memory, is closely associated with the CPU. Memory holds program instructions and data immediately before or after the registers.
- problem solving** A process that goes beyond decision making to include the implementation and monitoring stages.
- procedures** The strategies, policies, methods, and rules for using a CBIS.
- process symbol** Representation of a function that is performed.
- processing** Converting or transforming input into useful outputs.
- productivity** A measure of the output achieved divided by the input required. $\text{Productivity} = (\text{Output} / \text{Input}) \times 100\%$.
- program evaluation and review technique (PERT)** A formalized approach for developing a project schedule.
- programmed decision** A decision made using a rule, procedure, or quantitative method.
- programmer** A specialist responsible for modifying or developing programs to satisfy user requirements.
- programming language** Sets of keywords, symbols, and a system of rules for constructing statements by which

humans can communicate instructions to be executed by a computer.

- project deadline** The date the entire project is to be completed and operational.
- project milestone** A critical date for the completion of a major part of the project.
- project organizational structure** A structure centred on major products or services.
- project schedule** A detailed description of what is to be done.
- public-key infrastructure (PKI)** A means to enable users of an unsecured public network such as the Internet to securely and privately exchange data through the use of a public and a private cryptographic key pair that is obtained and shared through a trusted authority.
- quality control** A process that ensures that the finished product meets the customers' needs.
- questionnaires** A method of gathering data when the data sources are spread over a wide geographic area.
- radio frequency identification (RFID)** A technology that employs a microchip with an antenna that broadcasts its unique identifier and location to receivers.
- random access memory (RAM)** A form of memory in which instructions or data can be temporarily stored.
- rapid application development (RAD)** A systems development approach that employs tools, techniques, and methodologies designed to speed application development.
- read-only memory (ROM)** A non-volatile form of memory.
- record** A row in a table; all the data pertaining to one instance of an entity
- redundant array of independent/inexpensive disks (RAID)** A method of storing data that generates extra bits of data from existing data, allowing the system to create a 'reconstruction map' so that if a hard drive fails, the system can rebuild lost data.
- reengineering** Also known as 'process redesign' and 'business process reengineering' (BPR). The radical redesign of business processes, organizational structures, information systems, and values of the organization to achieve a breakthrough in business results.
- register** A high-speed storage area in the CPU used to temporarily hold small units of program instructions and data immediately before, during, and after execution by the CPU.
- relational database** A series of related tables, stored together with a minimum of duplication to achieve consistent and controlled pool of data.
- relationship degree** The degree of a relationship is the number of entities that are involved.
- release** A significant program change that often requires changes in the documentation of the software.
- reorder point (ROP)** A critical inventory quantity level.
- replicated database** A database that holds a duplicate set of frequently used data.
- report layout** A technique that allows designers to diagram and format printed reports.
- request for maintenance form** A form authorizing modification of programs.

request for proposal (RFP) A document that specifies in detail required resources such as hardware and software.

- requirements analysis** The determination of user, stakeholder, and organizational needs.
- requirements engineering** Also known as 'requirements analysis' and 'requirements capture'. Identifying what an information systems is needed (required) to do. Once the requirements have been identified, a solution can then be designed.
- return on investment (ROI)** One measure of IS value that investigates the additional profits or benefits that are generated as a percentage of the investment in IS technology.
- robotics** Mechanical or computer devices that perform tasks requiring a high degree of precision or that are tedious or hazardous for humans.
- router** A telecommunications device that forwards data packets across two or more distinct networks towards their destinations, through a process known as routing.

satisficing model A model that will find a good – but not necessarily the best – problem solution.

- scalability** The ability to increase the capability of a computer system to process more transactions in a given period by adding more, or more powerful, processors.
- schedule feasibility** The determination of whether the project can be completed in a reasonable amount of time.
- scheduled report** A report produced periodically, or on a schedule, such as daily, weekly, or monthly.
- screen layout** A technique that allows a designer to quickly and efficiently design the features, layout, and format of a display screen.
- script kiddie** A cracker with little technical savvy who downloads programs called scripts, which automate the job of breaking into computers.
- search engine** A web search tool.
- secondary storage (permanent storage)** Devices that store larger amounts of data, instructions, and information more permanently than allowed with main memory.
- semi-structured or unstructured problems** More complex problems in which the relationships among the pieces of data are not always clear, the data might be in a variety of formats, and the data is often difficult to manipulate or obtain.
- sequential access** A retrieval method in which data must be accessed in the order in which it is stored.
- sequential access storage device (SASD)** A device used to sequentially access secondary storage data.
- server** A computer designed for a specific task, such as network or Internet applications.
- shareware and freeware** Software that is very inexpensive or free, but whose source code cannot be modified.
- simulation** The ability of the DSS to duplicate the features of a real system.
- single instruction/multiple data (SIMD)** A form of parallel computing in which the processors all execute the same instruction on many data values simultaneously.
- site preparation** Preparation of the location of a new system.

- slipstream upgrade** A minor upgrade – typically a code adjustment or minor bug fix – not worth announcing. It usually requires recompiling all the code and, in so doing, it can create entirely new bugs.
- smartphone** A phone that combines the functionality of a mobile phone, camera, web browser, e-mail tool, and other devices into a single handheld device.
- social engineering** Using one's social skills to get computer users to provide you with information to access an information system or its data.
- software** The computer programs that govern the operation of the computer.
- software piracy** The act of illegally duplicating software.
- software suite** A collection of single application programs packaged in a bundle.
- source data automation** Capturing and editing data where the data is initially created and in a form that can be directly input to a computer, thus ensuring accuracy and timeliness.
- speech-recognition technology** Input devices that recognize human speech.
- stakeholders** People who, either themselves or through the organization they represent, ultimately benefit from the systems development project.
- start-up** The process of making the final tested information system fully operational.
- statistical sampling** Selecting a random sample of data and applying the characteristics of the sample to the whole group.
- steering committee** An advisory group consisting of senior management and users from the IS department and other functional areas.
- storage area network (SAN)** The technology that provides high-speed connections between data-storage devices and computers over a network.
- strategic alliance (strategic partnership)** An agreement between two or more companies that involves the joint production and distribution of goods and services.
- strategic application** A strategic application gives a firm a competitive advantage.
- strategic planning** Determining long-term objectives by analyzing the strengths and weaknesses of the organization, predicting future trends, and projecting the development of new product lines.
- structured interview** An interview where the questions are prepared in advance.
- structured walkthrough** A planned and pre-announced review of the progress of a program module.
- supercomputers** The most powerful computer systems with the fastest processing speeds.
- support application** Support applications make work more convenient but are not essential.
- switch** A telecommunications device that uses the physical device address in each incoming message on the network to determine to which output port it should forward the message to reach another device on the same network.
- synchronous communication** A form of communications where the receiver gets the message instantaneously, when it is sent.
- syntax** A set of rules associated with a programming language.
- system** A set of elements or components that interact to accomplish goals.
- system performance measurement** Monitoring the system – the number of errors encountered, the amount of memory required, the amount of processing or CPU time needed, and other problems.
- system performance products** Software that measures all components of the computer-based information system, including hardware, software, database, telecommunications, and network systems.
- system performance standard** A specific objective of the system.
- system testing** Testing the entire system of programs.
- systems analysis** The systems development phase involving the study of existing systems and work processes to identify strengths, weaknesses, and opportunities for improvement.
- systems analyst** A professional who specializes in analyzing and designing business systems.
- systems controls** Rules and procedures to maintain data security.
- systems design** A stage of systems development where a solution to the problem is planned out and documented.
- systems development** The activity of creating or modifying existing business systems.
- systems implementation** A stage of systems development that includes hardware acquisition, software acquisition or development, user preparation, hiring and training of personnel, site and data preparation, installation, testing, start-up, and user acceptance.
- systems investigation** The systems development phase during which problems and opportunities are identified and considered in light of the goals of the business.
- systems investigation report** A summary of the results of the systems investigation and the process of feasibility analysis and recommendation of a course of action.
- systems maintenance and review** The systems development phase that ensures the system operates as intended and modifies the system so that it continues to meet changing business needs.
- systems operation** Use of a new or modified system.
- systems request form** A document filled out by someone who wants the IS department to initiate systems investigation.
- systems review** The final step of systems development, involving the analysis of systems to make sure that they are operating as intended.
- team organizational structure** A structure centered on work teams or groups.
- technical documentation** Written details used by computer operators to execute the program and by analysts and programmers to solve problems or modify the program.
- technical feasibility** Assessment of whether the hardware, software, and other system components can be acquired or developed to solve the problem.
- technology diffusion** A measure of how widely technology is spread throughout the organization.

- technology-enabled relationship management** Occurs when a firm obtains detailed information about a customer's behaviour, preferences, needs, and buying patterns and uses that information to set prices, negotiate terms, tailor promotions, add product features, and otherwise customize its entire relationship with that customer.
- technology infrastructure** All the hardware, software, databases, telecommunications, people, and procedures that are configured to collect, manipulate, store, and process data into information.
- technology infusion** The extent to which technology is deeply integrated into an area or department.
- telecommunications** The electronic transmission of signals for communications; enables organizations to carry out their processes and tasks through effective computer networks.
- telecommunications medium** Any material substance that carries an electronic signal and serves as an interface between a sending device and a receiving device.
- Telnet** A terminal emulation protocol that enables users to log on to other computers on the Internet to gain access to public files.
- thin client** A low-cost, centrally managed computer with essential but limited capabilities and no extra drives, such as a CD or DVD drive, or expansion slots.
- time-driven review** Review performed after a specified amount of time.
- total cost of ownership (TCO)** The measurement of the total cost of owning computer equipment, including desktop computers, networks, and large computers.
- traditional organizational structure** An organizational structure similar to a managerial pyramid, where the hierarchy of decision making and authority flows from strategic management at the top down to operational management and non-management employees. Also called a hierarchical structure.
- transaction** Any business-related exchange, such as payments to employees, sales to customers, and payments to suppliers.
- transaction processing cycle** The process of data collection, data editing, data correction, data manipulation, data storage, and document production.
- transaction processing system (TPS)** An organized collection of people, procedures, software, databases, and devices used to record completed business transactions.
- Transmission Control Protocol (TCP)** The widely used transport-layer protocol that most Internet applications use with IP.
- Trojan horse** A malicious program that disguises itself as a useful application and purposefully does something the user does not expect.
- tunnelling** The process by which VPNs transfer information by encapsulating traffic in IP packets over the Internet.
- uniform resource locator (URL)** An assigned address on the Internet for each computer.
- unit testing** Testing of individual programs.
- unstructured interview** An interview where the questions are not prepared in advance.
- user** Person who will interact with the system regularly.
- user acceptance document** A formal agreement signed by the user that states that a phase of the installation or the complete system is approved.
- user documentation** Written descriptions developed for people who use a program, showing users, in easy-to-understand terms, how the program can and should be used.
- user interface** The element of the operating system that allows you to access and command the computer system.
- user preparation** The process of readying managers, decision makers, employees, other users, and stakeholders for new systems.
- utility programs** Programs that help to perform maintenance or correct problems with a computer system.
- value chain** A series (chain) of activities that includes inbound logistics, warehouse and storage, production, finished product storage, outbound logistics, marketing and sales, and customer service.
- version** A major program change, typically encompassing many new features.
- videoconference** A videoconference is a simultaneous communication between two or more parties where they both see and hear each other.
- virtual organizational structure** A structure that employs individuals, groups, or complete business units in geographically dispersed areas that can last for a few weeks or years, often requiring telecommunications or the Internet.
- virtual pet** An artificial companion. Could be screen based, i.e., the pet is animated on a computer monitor, or a robot.
- virtual private network (VPN)** A secure connection between two points on the Internet.
- virtual reality** The simulation of a real or imagined environment that can be experienced visually in three dimensions.
- virtual reality system** A system that enables one or more users to move and react in a computer-simulated environment.
- virtual tape** A storage device that manages less frequently needed data so that it appears to be stored entirely on tape cartridges, although some parts of it might actually be located on faster hard disks.
- virtual world** A computer-based environment where users' avatars can interact.
- virus** A computer program file capable of attaching to disks or other files and replicating itself repeatedly, typically without the user's knowledge or permission.
- vision systems** The hardware and software that permit computers to capture, store, and manipulate visual images.
- volume testing** Testing the application with a large amount of data.

wearable computing A term that refers to computers and computing technology that are worn on the body.

web browser Software that creates a unique, hypermedia-based menu on a computer screen, providing a graphical interface to the Web.

web services Standards and tools that streamline and simplify communication among websites for business and personal purposes.

what-if analysis The process of making hypothetical changes to problem data and observing the impact on the results.

wide area network (WAN) A telecommunications network that ties together large geographic regions.

wiki A web page that can be edited by anyone with the proper authority.

workstation A more powerful personal computer that is used for technical computing, such as engineering, but still fits on a desktop.

World Wide Web (WWW or W3) A collection of tens of thousands of independently owned computers that work together as one in an Internet service.

worm A parasitic computer program that can create copies of itself on the infected computer or send copies to other computers via a network.