

Appendix A.: Glossary - Content Management Terms and Definitions

The following glossary is based on the researching notes and writing digests of the author of the dissertation. The selection of the Terms and followed Definitions are from the author’s perspective and, most important of all, from the perspectives of CMS to its relevant technologies.

Note: By making this glossary, the author also uses the “User Manual of TeamSite” a CMS product from American CMS vendor Interwoven Inc. (Document No. 021202-01-T-1.0) and the “Benutzer Handbuch für NPS” a CMS product from German CMS vendor Infopark AG. as reference.

For more information or for the original definition of the above mentioned CMS vendors, readers may visit:

Infopark AG <http://www.infopark.com>
INTERWOVEN Inc. <http://www.interwoven.com>

In Alphabetic Order

Aggregation

The ability for authors to collect and enhance content and data from a variety of repositories scattered around the enterprise for the purpose of distributing to any number of endpoints, applications, portals or other destinations. XML is fast becoming the universal container for labeling, distributing and reusing these assets seamlessly across a myriad of computing platforms and applications.

Application Server

A server program that houses the business logic for an application. Application servers, or “app servers” execute the operations necessary to complete transactions and other interactions between end users and a business’s backend databases and applications.

Application servers provide functionality such as load balancing, database access classes, transaction processing, and messaging. For tiered applications, best practice calls for separating out this application processing from the actual dishing-up of web pages, which is done by a web server operating in front of the app server.

Application Servers are typically synonymous with J2EE (Java) engines, such as BEA WebLogic, IBM WebSphere, Oracle 9, and Sun ONE. However, other interactive platforms, such as ColdFusion and PHP, can be seen as lightweight application servers as well.

Application servers, therefore, are key Delivery engines in the CMS space. Some CMS products embed their own application server, while others take advantage of 3rd-party app servers.

Besides, the application server is frequently viewed as part of a three-tier application, consisting of the following:

1. A first-tier, front-end, Web browser-based graphical user interface, usually at a personal computer or workstation
2. A middle-tier business logic application or set of applications, possibly on a local area network or intranet server
3. A third-tier, back-end, database and transaction server, sometimes on a mainframe or large server

Apache

A popular Web server that is freely available under an open-source license. The current version runs on most UNIX-based operating systems, as well as on Windows. It is estimated that more than 60% of all web-sites run on Apache servers.

Apache debuted in 1995, and development of the server continues, primarily among a set of volunteer programmers known as the Apache Group. However, the source code can be modified or adapted by anyone.

Asset Management (AM)

The purpose Asset Management (AM) is to enable companies whose life blood revolves around their digital assets – such as entertainment companies – to organize and repurpose those assets to streamline costs and enhance revenues.

AM systems are especially suited to managing multimedia content, and tend to offer hooks into specialized desktop media authoring systems.

Authentication

Authentication is the process of determining whether someone or something is, in fact, who or what it is declared to be. In private and public computer networks (including the Internet), authentication is commonly done using logon passwords maintained on a secure server. Additional user properties are often stored in a directory server such as LDAP or Active Directory. The use of digital certificates issued and verified by a Certificate Authority (CA) as part of a public key infrastructure is a standard way to disseminate secure information. Logically, authentication precedes authorization (although they may often seem to be combined).

Authorization

Authorization is the process of giving someone access permissions to create, modify, or delete content. Authorization is usually done in two stages. First, a system administrator grants users system access and defines privileges of use (such as access to which file directories, hours of access, amount of allocated storage space, and so forth), normally this is done under standard guidelines. Once in the system, users can transfer rights to other users in compliance with system privileges. Logically, authorization is preceded by authentication.

Business Logic

Business logic refers to standard operating procedures for manipulating content so that companies can scale to meet the needs of all employees. It includes Content Management (workflow, security, workspaces, etc.), Content Intelligence (metadata, vocabularies, search, etc.), Content Distribution (deployment, accounting, security, etc.) and Content Processing (transformation, interoperability, access, etc.).

Cached Pages

Web pages that are generated in advance, assembling all of the static components into a single Web page that minimizes the need for real-time assembly of components. This improves execution of dynamically rendered pages by limiting the assembly process strictly to the variable elements being rendered. Static elements are already “baked in” (i.e. header graphics, footers, navbars, ad banners, etc.)

Caching

Caching refers to the process of temporarily storing files in a repository for quick access. When a file, such as a Web page, is stored on a cache, it can be accessed without returning to the original server, thus reducing server load and response time. A cache can exist in a section of a computer's main memory or as an independent high-speed storage device.

Large organizations or institutions use large caches to distribute and update data that is frequently accessed by users. Caching is important for ensuring adequate response times in CMSs because serving custom pages on the fly can be extremely process-intensive, even on low-traffic sites.

Catalog Management

The ability to collect, manage and distribute all of the assets required to support e-Business catalogs, workflow them for approval and deploy them to the appropriate destination, whether an e-Store, B2B exchange or other end delivery point.

Classification

The process of categorizing content according to its subject or context. This involves analyzing and comprehending the content and placing it in one or more subject categories as appropriate.

Collaboration

The ability for subject matter experts to work together in a seemingly real-world, real-time environment for the purpose of assembling, testing and quality checking all project content. By collaborating, users produce content faster, more accurately, and with the intelligence gained from consensus.

Compelling Web Experience

A customer experiences the Internet in a way that is best when it is easy to use, understand and obtain results. Web sites that enable the user to quickly and easily find what he/she is looking for and make a purchase or become informed are highly successful (i.e. Amazon.com and eBay). Contrary to earlier beliefs that the success of a Web site was based on session length, today it is accepted that Web sites are most effective when the user can “get in, find what they want, and get out.”

Content Management (CM / WCM)

The ability to manage and control the process of collecting, tagging, approving and distributing content assets to any number of endpoints. Functions include aggregation from external sources, templating for data entry and presentation, version control, intelligent workflow, tagging / classification and distribution / syndication.

ColdFusion

A set of Web development products developed by Allaire (now owned by Macromedia) that allows for integration between databases and web pages. Using ColdFusion, a developer can combine a content database with a set of templates to create a site that build and serves pages “on-the-fly.”

The suite of products is composed of two pieces: ColdFusion Studio—the development interface; and the ColdFusion server, which deploys pages to the user. ColdFusion uses its own markup language: CFML. Macromedia is in the process of converting this to a Javabased tag library and new generation server.

Controlled Vocabularies

A collection of preferred terms that are used to assist in more precise retrieval of content. Controlled vocabulary terms can be used for populating attribute values during indexing, building labeling systems, and creating style guides and database schema. One type of a controlled vocabulary is a thesaurus.

Deployment

The scalable, secure and automated delivery of content, data and application code from development into production.

Digital Asset Management (DAM)

Digital Asset Management (DAM) is a system that creates a centralized repository for digital files that allows the content to be archived, searched and retrieved. The digital content is stored in databases called asset repositories while metadata such as photo captions, article key words, advertiser names, contact names, file names or low-resolution thumbnail images are stored in separate databases called media catalogs and point to the original items.

Digital asset management is also known as enterprise digital asset management, media asset management or digital asset warehousing.

Digital Rights Management (DRM)

Digital Rights Management (DRM) systems restrict the use of digital files in order to protect the interests of copyright holders. DRM technologies can control file access (number of views, length of views), altering, sharing, copying, printing, and saving. These technologies may be contained within the operating system, program software, or in the actual hardware of a device.

Distribution controls the multi-tiered delivery of content across multiple servers, devices, and initiatives, both within, and beyond the enterprise. The ability to ensure accurate delivery and synchronization between multiple endpoints is crucial to data integrity.

Document Management (DM)

The purpose of Document Management (DM) is to help companies better manage the creation and flow of documents — in particular structured documents — through the help of databases and workflow engines that encapsulate metadata and business rules. Much of what we know about automated editorial workflow comes from the DM world. A critical drawback to DM products, however, is their limited traditional understanding of content as files, as opposed to discrete chunks of information.

Dynamic Pages

Web pages that are assembled when requested by a site visitor. They may be available in cache, but typically require disk access and application code execution in order to tailor the output to the end-user.

Editions

An archived, read-only version and permanent record of content assets that can be deployed to any number of endpoints, applications, portals or other destinations.

Enterprise Content Management (ECM)

Enterprise Content Management includes both the tools for interacting with specialized content types but also a platform for implementing business logic.

Businesses often segregated content according to the asset type so that the proper functionality is delivered. Document management gives users tightly controlled environments for regulatory compliance; Web content management allows for virtualization of Web site content for final test and approval before the site is made live; and so forth. There are no industry-accepted definitions for all the silos of content. However, the silos of Digital Asset Management, Document Management, Media Asset Management, Web Content Management, Web Application Management, and Records Management are common to have for most businesses.

Business logic refers to standard operating procedures for manipulating content so that companies can scale to meet the needs of all employees. It includes Content Management (workflow, security, workspaces, etc.), Content Intelligence (metadata, vocabularies, search, etc.), Content Distribution (deployment, accounting, security, etc.) and Content Processing (transformation, interoperability, access, etc.).

Imaging

Imaging is the capture, storage, manipulation, and display of images. In document imaging, the emphasis is on capturing, storing, and retrieving information from the images (which are often mainly images of text). In graphical imaging, the emphasis is on the manipulation of created images in order to achieve special effects through rotating, stretching, blurring, resizing, twirling, and other changes to the original image.

Indexing

The process of creating an index for a database or search engine. A database index associates specific keys or keywords with a unique record. Indexing facilitates the process of locating specific records within a database. Whether and how (and how often) a database, text, or XML repository is indexed can play a significant role in the quality of search results.

Information

Basic content, such as databases or documents, that have metadata associated with it. This permits the content to be manipulated more easily because the author, creation date, location, usage, and other properties are known.

Information Architecture

The set of ideas about how all information in a given context should be treated philosophically and, in a general way, how it should be organized. In the context of a company making computer products, an information architect might say that "All of our product information should serve customer needs as expressed by tasks that they have to do with our products," and would then develop a framework for organizing all existing and future product information in modules related to customer tasks. The results of this thinking would be expressed in an information architecture document.

Integration

Integration (from the Latin integer, meaning whole or entire) is the combination of parts so that they work together or form a whole. Integration during application development or deployment is a process in which separately produced components or subsystems are combined and problems in their interactions are addressed.

Intelligence

The ability to categorize and classify every content asset using one or more taxonomies to enable customized and personalized delivery to the end-user, in effect making the content “intelligent.” This enables content assets to be used across a variety of targeted delivery vehicles such as intranets, extranets, B2B exchanges, and portals with different audience targets.

See Classification, Controlled Vocabulary, Metadata

Internationalization

Internationalization is the process of designing an application so that it can be adapted to various languages and regions without engineering changes. Internationalization refers to the process of translating content and data assets into other languages for use in specific locales. Globalization is the first step to Localization, which is the tailoring of these elements to specific local language requirements. Also often referred to as globalization. By design, it allows users to create, manage and use content in their native languages.

Information and Content Exchange (ICE)

An XML-based protocol that provides a common language and architecture for automatic exchanging, updating, supplying and controlling of assets between partners and affiliates. ICE facilitates content syndication, and is designed for use in traditional publishing and business-to-business relationships.

ICE identifies the roles and responsibilities of syndicators and subscribers, defines the format and method of content exchange, and outlines parameters for syndication relationships. The ICE Authoring Group supports its development as an open standard.

J2EE

J2EE (Java 2 Platform, Enterprise Edition) is a platform designed for the large scale computing needs typical of large enterprises. Sun Microsystems (together with industry partners such as IBM in the Java Community Process) designed J2EE to simplify application development in a thin client tiered environment driven by Enterprise Java Beans and Servlets. J2EE simplifies application development and decreases the need for programming and programmer training by creating standardized, reusable modular components and by enabling the tier to handle many aspects of programming automatically.

Java

An object-oriented programming language developed by Sun Microsystems. Java programs are portable across a network, and can be built to run on either the server, browser, or special client.

Java is written in bytecode, a type of source code that must be processed by a Java virtual machine. The virtual machine interprets the bytecode into code that will run within the

constraints of a specific computer's hardware system. Therefore, as long as a platform is equipped with a Java virtual machine (as are most of today's servers are), Java applications will run on any operating system.

Because of its portability, Java has made substantial inroads into Enterprise computing, and, not surprisingly, commercial WCM vendors have been leveraging it both to expand their own capabilities across multiple platforms as well as integrate with other Java-based systems. The pre-eminent Java standard is “J2EE,” which prescribes a range of functions, but most notably for our purposes, lays out a set of Web publishing and application tiers ranging from Java Server Pages – JSP (for presentation and basic interactivity) to Servlets to Java Beans, where corporate business logic is stored.

JavaScript

A relatively simple scripting language that can integrate with HTML code and add interactivity to a web page. It is frequently used for functions that execute in the browser, such as mouseover effects, calling pop-up windows and alert boxes, and basic mathematical calculations. Developed by Netscape, Javascript is an open language supported by most current browsers.

While it has some structural and conceptual similarities to the Java programming language, JavaScript was developed independently. Generally speaking, JavaScript lacks Java's portability and speed.

Knowledge

Information that has additional metadata identified that allows entire collections of content to be manipulated. For example, a particular set of content may be associated with a project, given a deadline, and have users assigned to the completion of the content. The effect of identifying knowledge is that corporate projects are executed more smoothly, risk of schedule slippage is mitigated, and users become accountable.

Lightweight Directory Access Protocol (LDAP)

LDAP is a protocol for accessing online directory services that runs directly over TCP, and is used by nearly all X.500 directory clients that are in wide-spread use.

LDAP directory service is based on a client-server model. One or more LDAP servers contain the data making up the LDAP directory tree. An LDAP client connects to an LDAP server and asks it a question. The server responds with the answer, or with a pointer to where the client can get more information (typically, another LDAP server). No matter which LDAP server a client connects to, it sees the same view of the directory; a name presented to one LDAP server references the same entry it would at another LDAP server.

This is an important feature of a global directory service, like LDAP.

Localization

Localization refers to the process of adapting a software, product or service for different languages, countries, or cultures.

In addition language considerations, such as support for foreign character sets, localization may require adaptations for currency, time zone, national holidays, cultural assumptions and sensitivities, dialect, color scheme, and general design conventions.

Metadata

A definition or description of data, often described as data about data. For example, the data of a newspaper story is the headline and the story, whereas the metadata describes who wrote it, when and where it was published, and what section of the newspaper it appears in. Metadata can help us determine who content is for and where, how, and when it should appear.

For documents online, important metadata elements include its author, title, date of publication, and subject area. Meta is a prefix that in most information technology usages means "an underlying definition or description." Thus, metadata is a definition or description of data and meta language is a definition or description of language. Meta derives from Greek, meaning, "among, with, after, change." Whereas in some English words the prefix indicates "change" (for example, metamorphosis), in others, including those related to data and information, the prefix carries the meaning of "more comprehensive or fundamental."

Metadata is also commonly modeled using the Resource Description Framework (RDF), and XML derivative. Dublin Core, PRISM, and other industry metadata vocabularies are modeled on RDF.

Microsoft .NET

Microsoft's strategy is to provide "smart" client application software and operating systems which will enable PCs and other smart computing devices to act on XML Web services, potentially allowing anywhere, anytime access to information. For example, Microsoft MapPoint .NET, an XML Web Service allows the integration of high quality maps, driving directions, and other location intelligence into online applications, business processes, and Web sites.

The Microsoft Windows 2000 and Windows XP server family are the platforms for deploying, managing and orchestrating XML Web services on .NET Enterprise Servers. The Microsoft Visual Studio.NET and the Microsoft .NET Framework provide a solution for developers to build, deploy, and run XML Web services on the Microsoft platform.

Object-oriented (OO) database

A database that classifies information as "objects"; that is, structures that include both data and the functions that can be performed on that data. An object-oriented system organizes the classes of objects, the inheritance of class properties, and methods by subclasses and their objects.

Open Source

Open source is a term applied to certain packages and tools, like Linux and Perl, that are distributed free of charge under a license that guarantees the right to read, redistribute, modify, and use the software (source code and all) freely.

At a time when many commercial CMS vendors – rightly or wrongly – suffer from poor reputations for technical support and version incompatibility, the appeal of plugging into a vast 24/7 network of global supporters that we can be found behind major open-source projects is a strong one.

The main drawback of most open-source projects is that they are sometimes feature-poor relative to their commercial counterparts, and depending on the type of open-source license, you may be required to submit any innovations you develop back into the global community. Of course, that's the whole point behind it in the first place...

PHP

An open-source script language that was designed specifically to generate dynamic web pages. PHP script is embedded within HTML of a web document. When a user requests the document, the PHP script runs on the server-side, and performs any programs and operations specified in the script. A dynamically generated HTML page is then delivered to the user.

PHP runs as an optional module within the Apache webserver. It is an open-source alternative to Microsoft's Active Server Pages (ASP), Sun's Java Server Pages (JSP), and the like. Originally developed in 1994, The first version of the program was known as "Personal Home Page Tools."

Platform

The ECM platform integrates seamlessly with best-of-breed Application and Transaction infrastructure products from companies like IBM, BEA, Plumtree, Siebel, PeopleSoft and others to provide a complete infrastructure for managing the content and data that drives e-Business. Must support existing corporate IT infrastructure standards.

Portal

Portal is a term, generally synonymous with gateway, for a World Wide Web site in which content is segregated into various categories in which users are free to personalize those in which they choose to use. This model has a variety of uses including:

1. **Customer-facing.** Portals designed for mass delivery and self-service on the open Internet. Examples include Yahoo!, CNN.com, and e*Trade.
2. **Partner Extranet.** Portals designed for improved supply chain management, partner marketing, and other large networks of business relationships in which high volumes of partner sensitive data needs to be exchanged on a regular basis. Examples include proactive standard practices by General Electric, Siemens, and John Deere.
3. **Employee.** Many companies investing employee portals to give easier contributions from within departments, faster search through volumes of information.

Portal Server

An application server that includes additional classes and management tools to facilities delivery of Portlets, code containers that allow personalized access to segregated content.

Portfolio

The aggregation of content into unique portlets and delivered through a portal application server. This content is high-value for the organization and is thus combined with accurate search, archival, and distribution.

Portlet

Application code containers that are executed as part of an application server portal page. Together, sets of Portlets comprise a single Web page or Portal page. Custom portlets are typically used in personalized experiences, such as on Yahoo.com, delivering windows of information such as news, weather, corporate press releases, etc.

Practical Extraction and Report Language (Perl)

A script programming language designed specifically for processing text. Developed by Larry Wall and introduced in 1987, Perl combines syntax from several UNIX utilities and languages. It is often used to write common gateway interface (CGI) programs—one method through which developers can provide dynamic interaction between users and web-sites.

Perl is a popular choice for programming server-side tasks such as automatically updating user accounts and newsgroup postings, processing removal requests, synchronizing databases and generating reports. Its text-processing prowess makes it a frequent choice for building home-grown CMSs.

Python

A script programming language noted for its portability and clear syntax. It is an object oriented language that incorporates modules, exceptions, dynamic typing, very high level dynamic data types, and classes. Extensions to Python can be written in the C or C ++ programming languages. It is available under an open source license.

Scalability

The ability to handle larger numbers of end-users and distribution to new endpoints using the existing ECM architecture and resources. Dimensions of scalability often include storage capacity, user load, references, throughput, bandwidth, and other measurable elements.

Records Management

The discipline and organizational function of managing records to meet operational business needs, accountability and community expectations.

Recorded information, in any form, including data in computer systems, created or received and maintained by the company, or person in the transaction of business or the conduct of affairs and kept as evidence of such activity.

Records can be distinguished from documents by the fact that they function as evidence of business transactions.

Records document business activity and while some may have only short-lived value, many are vital for supporting informed decision-making and ensuring accountability.

Some documents are not regarded as records because they have not participated in a business transaction or were not created to document such a transaction and, consequently, are not required to function as evidence of business.

Relational Database Management System (RDBMS)

A collection of programs that allows you to create, store, modify, and administer a relational database. An RDBMS stores data in related tables, and information can be extracted from the database through structured query language (SQL) statements.

Because the data in a relational system is spread across tables, rather than housed in a flat file, the same database can be viewed in many different ways. Almost all complex databases today use an RDBMS, including most business databases.

Site Loyalty

A visitor's allegiance to a Web property based on the perceived quality of the Web experience it delivers.

Site loyalty requires that content be relevant and timely and is based on diverse assets to support differentiated customer expectations.

Site Redesign

The task of rebranding or redesigning Web properties to reflect a new image, look & feel or information architecture change. Many companies engage in Web site redesigns twice a year to promote the perception of “newness” or “freshness”.

Staging

The pre-production environment where the work of a group of contributors is aggregated and integrated for final testing and quality assurance before being promoted into production.

Content contributors can submit read-only approved versions of content assets from personal or workgroup work areas to staging for rollup with other contributing groups for final test of a resulting Web property or application as a whole.

Standard Generalized Markup Language (SGML)

SGML is an international standard for specifying the markup language of an electronic document. An example of metadata, SGML is a meta language that included in a file's document type definition. It specifies the rules for the tagging elements of a markup language, which in turn determines the formatting of the text.

SGML was the precursor to both HTML and XML. Used mostly in technical and reference publishing, SGML was highly powerful, but considered too arcane and clumsy for the Web. Nevertheless, it remains in broad use today.

Syndication

Syndication is the supply of material for reuse and integration with other material, often through a paid service subscription. The most common example of syndication is in newspapers, where such content as wire-service news, comics, columns, horoscopes, and crossword puzzles are usually syndicated content. Newspapers receive the content from the content providers, reformat it as required, integrate it with other copy, print it, and publish it. For many years mainly a feature of print media, today content syndication is the way a great deal of information is disseminated across the Web. Reuters, for example, provides online news content to over 900 Web sites and portals, such as Yahoo and America Online.

Two crucial components for the further development of the industry built on online syndication have been cited as: the need for a standardized data exchange mechanism, and the need for a standardized metadata vocabulary (since suppliers and subscribers are often using different and incompatible technologies). The Information & Content Exchange (ICE) protocol was developed as an early open standard for data exchange that enables the automation of all processes involved. An organization made up of content providers and vendors, the Publishing Requirements for Industry Standard Metadata (PRISM) working group is collaborating to develop a standard vocabulary.

Taxonomy

Taxonomy (from Greek taxis meaning arrangement or division and nomos meaning law) is the science of classification according to a pre-determined system, with the resulting catalog used to provide a conceptual framework for discussion, analysis, or information retrieval. In theory, the development of a good taxonomy takes into account the importance of separating elements of a group (taxon) into subgroups (taxa) that are mutually exclusive, unambiguous, and taken together, include all possibilities. In practice, a good taxonomy should be simple, easy to remember, and easy to use.

In Web portal design, taxonomies are often created to describe categories and subcategories of topics found on the Web site.

In science, taxonomy allows people to precisely identify any organism by its kingdom, phylum, class, order, family, genus and species. Taxonomy, as it relates to content management, does the same job. It describes a classification structure for content. This structure, typically highly regimented, impacts the data model, directory structure and file naming conventions for a given implementation of a content management system.

Taxonomy can also be language-oriented, as in specifications for subsets of XML, such as ebXML.

Templating

A forms-based method of contribution that eliminates the need for HTML coding expertise.

By separating form from content, non-technical staff can capture and edit in a Word-like fashion while outputting to an XML format. Templating is a key enabler of content re-use through componentization of content.

Thesaurus

A type of controlled vocabulary that shows the hierarchical (e.g., parent-child), associative (e.g., related) and equivalent (e.g., synonymous) relationships among terms.

Tool Command Language (TCL)

A high-level, interpreted script programming language often used for prototyping applications. An open-source language, TCL is extensible, and was designed so that custom commands could be written in the “C” language, and integrated easily. TCL has a companion program, Tool Kit (Tk), for building graphical user interfaces. TCL is now maintained by Sun Microsystems, but used in several commercial and open-source WCM packages.

Total Cost of Ownership (TCO)

The total cost of deploying a solution or application over its depreciated life. This includes the cost of licensing, consulting services, maintenance, upgrades and customization / enhancement.

TCO analysis originated with the Gartner Group several years ago and has since been developed in a number of different methodologies and software tools. TCO analysis performs calculations on extended costs for any purchase - these are called fully burdened costs. For the consumer's purchase of a computer, the fully burdened cost may include costs of purchase,

repairs, maintenance, and upgrades. For the business purchase of a computer, the fully burdened costs can also include such things as service and support, networking, security, user training, and software licensing.

Transformation

The process of converting one content or data format to another, either on demand or in an automated fashion. For example, transforming a Microsoft Word document into the Adobe Portable Document Format (PDF) or XML using a variety of methods, such as Adobe Acrobat or XML style sheets, templating / rendering.

Versioning

Functionality to track and manipulate multiple versions of individual content assets, groups of assets up to and including entire Web site(s).

Virtualization

Functionality that enables contributors to work in their own “sandbox”, in essence with virtual copies of a Web site. Contributors can make changes to any content assets and test those changes as if they were deployed on the production Web site.

This ability drives Quality Assurance to the Subject Matter Experts, promotes accountability and shortens the time to deploy new Web initiatives.

Visual Basic (VB)

A programming environment developed by Microsoft that provides a graphical interface for writing code in the BASIC (Beginner’s All-Purpose Symbolic Instruction Code) language.

VB allows programmers select and modify bits of existing BASIC code, and assemble them into custom applications and programs.

VB is particularly suited to rapid application development, and therefore is often used for prototyping applications that might subsequently be developed in a more powerful language like C or Java. VBScript is a subset of the language that is frequently used to apply dynamic logic within Active Server Pages.

Web Application Management

Tools for maintaining all operational elements of a Web application throughout its life cycle. In modern day applications, this includes the management of both the code itself and the content, such as databases or documents, which are processed for ultimate delivery on the Web.

Web Content Management

A Web Content Management (WCM) system empowers line-of-business people within organizations to directly contribute and manage Web content relating to their areas of responsibility, while maintaining a consistent look and feel for the Web site, via templates. The focus of WCM is Web publishing and Web page change management. Document Management, on the other hand, provides a collaborative environment for the creation, management, and distribution of an organization's important documents.

Web Services

Web services (sometimes called application services) are services (usually including some combination of programming and data, but possibly including human resources as well) that are made available from a business's Web server for Web users or other Web-connected programs. Providers of Web services are generally known as application service providers. Web services range from such major services as storage management and customer relationship management (CRM) down to much more limited services such as the furnishing of a stock quote and the checking of bids for an auction item. The accelerating creation and availability of these services is a major Web trend.

Users can access some Web services through a peer-to-peer arrangement rather than by going to a central server. Some services can communicate with other services and this exchange of procedures and data is generally enabled by a class of software known as middleware. Services previously possible only with the older standardized service known as Electronic Data Interchange (EDI) increasingly are likely to become Web services. Besides the standardization and wide availability to users and businesses of the Internet itself, Web services are also increasingly enabled by the use of the Extensible Markup Language (XML) as a means of standardizing data formats and exchanging data. XML is the foundation for the Web Services Description Language (WSDL).

Web Services Management

A specialized form of Web Application Management in which delivery interfaces and protocols are limited to those defined by Web services specifications, such as SOAP over HTTP. It is expected that most application development will be Web service enabled in the future.

Web Team

A team of professional Web editors, HTML and application developers and graphic designers who require a variety of versatile, powerful development tools to create compelling and branded visual Web content.

Wire Frames

A rough outline of page elements and their arrangement within the page. An important deliverable in any template or site redesign, wire frames show the logical elements on the page, as opposed to the visual elements of a page.

Wireless Markup Language (WML)

The markup language used to format text and data for wireless application protocol (WAP) devices, including cell phones, personal digital assistants (PDAs), and other wireless devices. WML is an extensible markup language (XML) application.

Workflow

The tasks, procedural steps, organizations or people involved, required input and output information, and tools needed for each step in a business process. A workflow approach to analyzing and managing a business process can be combined with an object-oriented programming approach, which tends to focus on content and data. In general, workflow management focuses on processes rather than the content itself. A good workflow system allows a company to create a workflow model and components such as online forms and then to use this product as a way to manage and enforce the consistent handling of work.

A workflow engine is the component in a workflow automation program that knows all the procedures, steps in a procedure, and rules for each step. The workflow engine determines whether the process is ready to move to the next step.

XML (eXtensible Markup Language)

XML (Extensible Markup Language) is a flexible way to create common information formats and share both the format and the data on the World Wide Web, intranets, and elsewhere. For example, computer makers might agree on a standard or common way to describe the information about a computer product (processor speed, memory size, and so forth) and then describe the product information format with XML. Such a standard way of describing data would enable a user to send an intelligent agent (a program) to each computer maker's Web site, gather data, and then make a valid comparison. Any individual or group of individuals or companies that wants to share information in a consistent way can use XML.

XML is "extensible" because, unlike HTML, the markup symbols are unlimited and self-defining. XML is simpler and easier-to-use subset of a more generalized language called Standard Generalized Markup Language (SGML).