

Glossary - A

Asset Management - in the context of digital asset management, recording details about assets and storing them in association with the asset itself, for subsequent search and retrieval via an internal network or on the internet as required.

Asset Management Software / System - see digital asset management (DAM).

Alphanumeric - a string of characters containing both letters and numerals, for example a U.K. post code LS29 8DD.

ASCII (American Standard Code for Information Interchange) - a binary code of eight Bits providing $2^8 = 256$ unique combinations assigned to all of the English alphabet, including upper and lower case, the digits 0 - 9, punctuation marks, and a number of special characters. ASCII was originally designed as a code for Telex communications.

Apache web server - open source web server software in common use. The Microsoft equivalent is IIS.

Aspect ratio - the dimension of the longest side of a rectangle divided by the dimension its shortest side. Commonly used to describe film and photographic formats, television and computer screen formats etc... Thus an image with a long side of 20cm and a short side of 12cm would be said to have an aspect ratio of 20:12 or 1.67:1

Audit trail - in the context of digital asset management, a record of all actions performed on a system by user and date / time, such as adding an item, adding or changing textual data, deleting an item etc...

Glossary - B

Back-up - a copy or copies of programs, data, digital assets etc..., that can be used to restore a system in the event of a catastrophic failure. Backups might be on another hard drive, or on tape, or both.

Binary - in the context of computing, having two states e.g. 0 and 1, or True and False.

In everyday counting we use decimal or base 10, which means that each number's position has a value of 10 times the value of the position to its right. In binary counting, which has a base of 2, each number's position has a value of 2 times the value of the position to its right.

A decimal number, take 126 for example, which we read without thinking as one hundred and twenty six, is the sum of each of the values according to their position. In this case, and reading from the left, Hundreds + Tens + Units. Thus for 126 add together 1 Hundred + 2 Tens + 6 Units.

Binary counting uses exactly the same principle, except that whereas in decimal a new position is added to the left after reaching ten, in binary a new position is added after reaching 1. Thus the binary representation of decimal 7 is 0111, where in decimal terms the column values in this example are Eight, Four, Two and One. Hence adding as for a decimal number, 0 Eights + 1 Fours + 1 Twos + 1 Ones = decimal 7.

Bit - a contraction of Binary Digit, abbreviation 'b'. A digital (as opposed to analogue) computer recognises only two states in the smallest item of information available to it - typically represented as 0 and 1. This smallest available item of information is called a Bit.

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Because digital computers can only recognise two states, they can only count, or do anything for that matter, by counting from nought up to one and then starting again. In practice ordinary desk and laptop computers process 16 or 32 strings of Bits in parallel.

See also Byte

Bit depth - see colour depth.

Bitmap - a matrix of dots, the colour value of each which are stored in one or more Bits, to represent an image. A bitmap file type has the extension BMP.

Boolean searching - Boolean algebra is used for solving logic as opposed to arithmetical problems, and elements of Boolean notation can be used when searching data. The most commonly used elements are AND, OR and NOT, where for example 'house' AND 'tree' will find all items with both house and tree in their indexed data, 'house' OR 'tree' will find items with either house or tree, and 'house' NOT 'tree' will find items with house, but which do not have tree in their indexed data.

Brand asset management system - a system for keeping track and ensuring the consistent application of the digital resources used to define a company's brand, the logos, colours, graphics, images etc... for publicity material, documentation, websites and so on. Key requirements include the ability to easily and quickly store any type of file, and crucially, to then be able to search for and find them when they're needed again.

Branding - in the context of web based systems, the look and feel of the site, including the banner, colours, fonts, logos and general layout.

Browser - the software used, for example, to look at things on the web. Internet Explorer, Safari, Firefox etc... are examples of browsers, whatever you're using now to look at this.

Browser based - when a media asset management or online library system is said to be browser based, it means the programs, assets and databases are stored centrally with none on the user's computer. It also means that the system is always accessed through a browser - whether for administration, uploading and editing, general searching etc... .

Byte - usually 8 Bits and abbreviated as 'B'. A byte can have $2^8 = 256$ unique states.

A kilobyte (KB) is 1,000 bytes (strictly $2^{10} = 1,024$ bytes), a megabyte (MB) is 1,000,000 bytes (strictly $2^{20} = 1,048,576$ bytes), and a gigabyte (GB) is 1,000,000,000 (one thousand million) bytes (strictly $2^{30} = 1,073,741,824$ bytes).

Glossary - C

Cataloguing - or Indexing - adding and editing textual data to a database of digital assets, including descriptions, captions, keywords / tags, creating relationships between items.

CMYK - the colour space of **C**yan **M**agenta **Y**ellow and **blacK** typically used for printing, whereas computer displays use the RGB colour space.

Colour depth - or Bit depth. The number of bits used to define a colour, e.g. 24 bits is common for computer displays, where 8 bits are used for each of Red, Green and Blue (RGB). Thus $2^{24} = 16,777,216$ (usually described as 16 million) different colours are available - often described as 'True Colour'.

Colour space - the numerical description of a colour, usually either RGB for monitors or CMYK for printing.

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Configurable database structure - in the context of digital asset management and media asset library systems, being able to create and modify the structure of the database according to specific requirements. For example, the number and type of fields available for storing descriptive text data, keyword (category) hierarchies of any depth and breadth, parent and child relationships between items, etc...

Content based image retrieval (CBIR) - using visual information rather than any associated text or keyword data to search for and retrieve images with similar characteristics, for example an overall colour hue, similar shapes such as buildings or people etc...

Content management system (CMS) - a software system for managing the content of a website. Full content management systems enable every aspect of a site to be managed without the need for programming or web design skills. It is a fundamental requirement of a digital asset management or online library system that the content of images and other digital assets can be managed, but these systems may not include features for adding to or changing other aspects of the content, for example plain text pages, layout, colours and fonts.

Glossary - D

Data integrity - data integrity with regard to a database system usually consists of three mechanisms for ensuring that the data stored is accurate, consistent and maintainable: primary keys, foreign keys and defined values. A primary key states that a certain field, or column, should be unique and not null, a foreign key states that a value in a field in one table must either be null or conform to a value in a specified column in another table, and defined values states that the value of a field must be drawn from a defined pool of values.

Database - the computer files in which information is stored. Digital asset management and picture library systems use a database for storing the information associated with each asset, and sometimes for storing the asset itself. More flexible systems store the assets outside the database, but with an association between the assets and the database.

Database schema or structure - the definition of the elements of the database, such as number and type of fields and the relationships between items e.g. parent / child.

Digital Asset Management (DAM) system - a computer system which provides, at the most basic level, the means to store digital assets and catalogue them with associated descriptive text data and keywords, and then be able to readily search for, view, and retrieve the assets as required.

Digital Rights Management - in the same way as a book, film, printed photograph, work of art etc... is protected by the laws of copyright, digital representations often also need to be protected. This might be achieved by a visual watermark on images that can be viewed, via the internet say, or by making only part of an asset available to the public at large.

Digitisation - the process of creating a digital (computer file) representation of a picture, drawing, film, audio recording, text or a three dimensional object.

Domain name - the unique name of a website, for example ibase.com in the case of this website.

dpi (dots per inch) - the resolution (degree of definition or detail) of printed material.

Dublin Core - the shorthand name (derived from where the original work was done, Dublin in Ohio) for the outcome of a project intended to offer a standard database structure for recording descriptive textual data.

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Glossary - E

E-commerce - commercial transactions performed electronically, for example purchasing images and other assets via a web site.

Embedded metadata - descriptive textual data embedded in a file, for example EXIF and IPTC. In the context of digital asset management and online libraries, good systems will be able to extract these data and map them to fields in the database to enable them, if required, to be searchable and displayed. Similarly, it should be possible from within a digital asset management system to overwrite or create new embedded metadata.

EXIF - the technical embedded metadata automatically created by digital cameras or other capture devices, including for example the type of capture device, data and time the file was created, the capture device settings such as shutter speed and *f*-stop used by a camera, the resolution etc...

Glossary - F

Federated searching - a federated search is the simultaneous searching of multiple online databases, with the facility to see a list of returns from each source with clickable links that will connect directly to the source database. There are many techniques for achieving federated searching, one of the most flexible and easiest to implement being a REST (REpresentational State Transfer) server. See also REST.

Field (database) - database fields are elements of a database in which data is stored. In the context of digital asset management systems it should be possible to create as many as are required.

File size - the size of digital asset file measured in Bytes - typically Mega Bytes or Kilo Bytes. The number and sizes of files determine the amount of storage space required for them.

Folksonomy - whereas the original descriptive metadata for an asset is usually created by the originator or administrators of a digital library, the addition of keywords or tags by the general public, also known as social tagging or classification, creates a richer interpretation generically described as a folksonomy.

FTP (File transfer protocol) - a means of transferring files from one location to another.

Fulfilment - in the context of digital asset management systems and online digital libraries, the delivery of an asset to a user. Typical methods of fulfilment include direct download after authorisation by an administrator or an online (e-commerce) payment, or sending the asset as an e-mail attachment, or on a disc using a courier or postal service.

Glossary - G

Gigabyte (GB) - one thousand million (1,000,000,000) bytes - strictly $2^{30} = 1,073,741,824$ bytes. See also Byte.

Greyscale - a colour space that uses a single element of 8 bits to create 255 shades of grey between, and including, black and white. Whereas the RGB colour space uses three elements of 8 bits each.

Glossary - H

High Resolution (High Res) - a loose term for images having a higher resolution than perhaps others within the same set or within the same digital asset management or library system.

Hosting - in the context of media asset management systems, providing an I.T. environment in which a system can be deployed and made available to web or intranet users.

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HTML - Hypertext Markup Language, an internationally agreed standard for defining key elements of a web page, including the page layout, fonts, links to other pages in the same site or links to pages in other sites.

Glossary - I

Image resolution - the degree of definition or detail of a computer screen or printer output. Usually expressed in dpi (dots per inch) for printed output and pixels for screen displays. The higher the resolution the greater the definition available.

Index - like the index of a book and in the context of digital asset management, indexes are used by databases to enable rapid search and retrieval of asset records.

Indexing - or Cataloguing - adding and editing textual data to a database of digital assets, including descriptions, captions, keywords / tags, creating relationships between items.

Internet - a global interconnection of networks, used amongst other things by the World Wide Web.

Intranet - a network internal to an organization, also known as a LAN (Local Area Network).

IPTC - textual metadata embedded in a file. Fields available include:

- File name
- Copyright
- Caption
- Caption writer
- Headline
- Special instructions
- Keywords
- Category
- Supplemental categories
- Urgency
- Byline
- Byline title
- Credits
- Source
- Object name
- Date created
- City
- Provenance
- Country
- Original transmission reference

Glossary - J

JPEG - Joint Photographic Experts Group. A standard commonly used for reducing the size (number of bytes) of an image file by using what is known as a compression algorithm.

JPEG 2000 - see also JPEG. A file compression standard from the Joint Photographic Experts Group which enables compression with less visual loss than a standard JPEG. A useful feature of JPEG 2000 is the ability to display a low resolution version of an image without having to decompress the whole file, which might otherwise take some time for large images.

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Glossary - K

Kilobyte (KB) - see also Byte. A Kilobyte is 1,000 bytes (strictly $2^{10} = 1,024$ bytes)

A megabyte (MB) is 1,000,000 bytes (strictly $2^{20} = 1,048,576$ bytes)

A gigabyte (GB) is 1,000,000,000 (one thousand million) bytes (strictly $2^{30} = 1,073,741,824$ bytes).

Keyword - a word or phrase drawn from a regulated library of words or phrases to describe an asset, such as an image. They can be used for the purpose of searching for and retrieving all assets which have the target keywords or phrases assigned to them. Keywords are also known as Tags, Categories, Subjects etc...

Glossary - L

Local Area Network (LAN) - a network internal to an organization, also known as an intranet

Glossary - M

MAM (Media Asset Management) - see Digital asset management

Megabyte (MB) - see also Byte. A Megabyte (MB) is 1,000,000 bytes (strictly $2^{20} = 1,048,576$ bytes)

A Kilobyte is 1,000 bytes (strictly $2^{10} = 1,024$ bytes)

A Gigabyte (GB) is 1,000,000,000 (one thousand million) bytes (strictly $2^{30} = 1,073,741,824$ bytes).

Megapixel - one million pixels

Metadata - data, usually textual, associated with an asset for the purpose of describing its various attributes. These might be such things as who created the asset and when, a title, caption and full description, keywords or tags, and so on.

Descriptive metadata might be stored within the asset file itself, using for example the IPTC standard. These are known as embedded metadata.

In the case of digital images there will usually be a wide range of technical data, such as the make and model of the camera, the shutter speed and aperture setting used, etc... These data usually conform to the EXIF standard.

In the context of digital asset management and online libraries, good systems will be able to extract these data and map them to fields in the database to enable them, if required, to be searchable and displayed. Similarly, it should be possible from within a digital asset management system to overwrite or create new embedded metadata.

MPEG - Moving Picture Experts Group. A commonly used type of moving image encoding.

Glossary - N

Network - the interconnection of computer devices such as servers, workstations, printers etc... for example within a room, an office, multiple offices, or between widely dispersed geographical locations.

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Glossary - O

ODBC (Open database connectivity) - a system of database access. With ODBC an interface between different applications can be created, for example between a SQL database such as Microsoft SQL Server or Oracle, and an Excel spreadsheet. Thus any ODBC compliant application can exchange information with another ODBC compliant application.

Online digital library - a library of digital assets, for example images, videos, music, documents etc... available to users either on the internet or an intranet.

Optical Character Recognition (OCR) - used in the process of scanning a page of printed text and creating computer readable text from it.

Glossary - P

Parent / child relationship - a relationship created from one database record to several or many others. Such relationships are especially useful in digital asset management and digital media library systems, enabling for example the biographical details of an artist to be linked to all of the records of their works. The same sort of relationships can be used in many different ways to create rich content with multiple interlinking.

PDF - Portable Document Format. A propriety format developed by Adobe now widely accepted as a means of creating documents that can be read on any computer using the freely available Adobe Acrobat reader.

Photo library software - specifically for photographs, see online digital library and digital asset management system.

Picklist - a list of values (words and phrases) from which an entry for a metadata field can or must be taken. Allowing only the picklist to be used will ensure that data integrity is maintained.

Picture library management system - specifically for pictures, see online digital library and digital asset management system.

Pixel - the smallest element of a computer screen display. Representation of a dot of RGB colour will use three pixels, one for each of R, G & B.

Glossary - R

RAID (Redundant Array of Independent Disks) - a system comprising two or more separate hard drives and a RAID controller, used most often to provide higher fault tolerance. With a RAID array it is possible for one of the discs to fail completely but still recover all of the data stored on the array.

RAW image format - a file created by an image capture system such as a digital camera. A RAW file is unprocessed and not suitable for either graphic display or printing. Most cameras either by default, or with a setting, convert RAW files to either TIFF or JPEG format.

RDBMS (Relational DataBase Management System) - software that controls the organisation and management of data held in a database.

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Resolution - of an image. The degree of definition or detail of a computer screen or printer output. Usually expressed in dpi (dots per inch) for printed output and pixels for screen displays. The higher the resolution the greater the definition available.

REST server (Representational State Transfer) - software that enables searching of an iBase Online Library or Cataloguing System database by external search engines. The advantages of using a REST server include:

- No matter how dynamic the source databases are, searches automatically generate returns using the current state, and so there is never any need for special updates of the source databases.
- Implementation is straightforward, using standard XML protocols.
- Once implemented a REST Server requires no effort at all to maintain it.

RGB (Red Green Blue) - a colour space used for graphic displays. RGB is usually rendered with a minimum of 8 bits for each of Red, Green and Blue (RGB). Thus $2^{24} = 16,777,216$ (usually described as 16 million) different colours are available. This standard is often described as 'True Colour'.

Glossary - S

SQL (Structured Query Language) - a language used to process data in a relational database, such as Microsoft SQL Server or Oracle.

Streaming video and audio - a method of delivery of video and audio files over a network or the internet that doesn't require the whole file to be downloaded before it can be 'played'.

Glossary - T

Tagging - assigning to a digital asset a word or phrase that characterises it, for example describing the contents of an image. Often the word or phrase is drawn from a regulated library of words or phrases. Tags can be used for the purpose of searching for and retrieving all assets which have the target keywords or phrases assigned to them. Tags are also known as Keywords, Categories, Subjects etc... See also Folksonomy

Taxonomy - a hierarchical structure of keywords, categories etc... Formal standards exist for many taxonomies, for instance the evolutionary structure of living creatures. A good digital asset management system will enable the creation of any taxonomical structure that is required.

Terabyte (TB) - one thousand Gigabytes.

TIFF (Tagged Image File Format) - a commonly used image file format.

Glossary - U

URL (Uniform Resource Locator) - the address of a file on a network or the internet.



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Glossary - W

WAN (Wide Area Network) - a private network that connects geographically separated locations.

WAV - the Microsoft Windows standard format for digital audio files.

Web based - when a media asset management or online library system is said to be web based, it means the programs, assets and databases are stored centrally with none on the user's computer. It also means that the system is always accessed through a browser - whether for administration, uploading and editing, general searching etc... .

WMV - the Microsoft Windows compression technology and format for digital video files.

Workflow - regulating the flow of a digital asset from origination through to its intended purpose. Workflow techniques include the prevention of moving to the next stage or status of a process until an authorised person has 'signed off' the current status, and the use of metadata fields for which the entry of data is mandatory.

Glossary - X

XML (EXtensible Markup Language) - a specification for creating custom markup languages, especially for sharing structured data via the internet and for defining the content of a web page separately from its formatting.