

# Appendix H: Glossary

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AAT	Art and Architecture Thesaurus – An online, searchable structured vocabulary of the Getty Research Institute that provides “controlled” or preferred terms for cataloging and semantics networks between concepts and also serves as a general research tool.
ACIS	Andy, Charles, Ian’s System – A geometric engine used by most CAD packages that uses a sophisticated object-oriented approach for modeling; data is stored in boundary representation.
ADAG	Architectural Drawing Advisory Group
AEC	Architecture / Engineering / Construction
aecXML	architecture/engineering/consulting eXtensible Markup Language – An XML standards initiative for the AEC industry for sharing common building components and commercial information between disparate software packages to enable communication between members of the design/ construction team such as proposals, estimating and scheduling.
AIP	Archival Information Package – A set of information to be placed in archival storage, containing the digital content, representation information to understand and view the format and metadata about the content; part of the OAIS reference model.
AITF	Art Information Task Force – A group of art historians, museum curators and registrars, visual resource professionals and information managers who developed <i>Categories for the Description of Works of Art</i> (CDWA), a metadata standard for describing art objects and images.
AMICO	Art Museum Image Consortium – A not-for-profit organization of institutions with collections of art, collaborating to enable educational use of museum multimedia.
ANSI	American National Standards Institute – A private, non-profit organization that administers and coordinates the U.S. voluntary standardization and conformity assessment system.
AP	Application Protocol – An approach to the development of data exchange standards that requires definition of the activities to be supported by the data exchanged and the information requirements of those activities.
ASCII	American Standard Code for Information Interchange – A standard seven-bit code that uses decimal numbers to represent letters, numbers, punctuation marks, and the most common special characters; proposed by American National Standards Institute.

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Autostereoscopic Display	An innovative technology for presenting virtual 3D images without the need for the viewer to wear glasses or headgear of any kind. The concept is based on presenting a slightly different image to each eye—one that has been shifted horizontally, creating a “stereo pair” of images.
AVI	Audio Video Interleave format – A format for animation files developed by Microsoft.
CAD	Computer Aided Design
CAD / CAM	Computer Aided Design / Computer Aided Manufacturing
CAVE	Cave Automatic Virtual Environment – A projection-based virtual reality system developed at the Electronic Visualization Lab at the University of Illinois at Chicago in 1991.
CCD Array	Charge-Coupled Device array – Light-sensitive diodes used in scanners and electronic cameras. These usually sweep across an image and, when exposed to light, generate a series of digital signals that are converted into pixel values.
CCITT	International Telegraph and Telephone Consultative Committee – The predecessor of ITU-T.
CDWA	Categories for the Description of Works of Art – A set of information requirements for a metadata schema to describe and access art and architectural objects; created by the Art Information Task Force (AITF) and sponsored by the J. Paul Getty Trust.
Checksum	A computed value for a block of data and which is stored along with the data in order to detect corruption of the data. The retrieving system recalculates the checksum based upon the retrieved data and compares this value with the one stored with the data. If the two values are the same, the retriever has some confidence that the data were stored and retrieved correctly.
CIE	Commission Internationale de l'Eclairage (International Commission on Illumination) – An organization devoted to international cooperation and exchange of information among its member countries on all matters relating to the science and art of lighting.
CIELAB	A device-independent color space defined by CIE that is used as a color profile connection space (PCS) for mapping color values.
CIE-XYZ	A device-independent color space defined by CIE that is used as a color profile connection space (PCS) for mapping color values.
CIMI	Computer Interchange of Museum Information – A consortium of cultural heritage institutions and organizations that work to bring rich cultural information to

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	<p>the widest possible audience. The group was terminated in December 2003.</p>
CITI	<p>Collection Images Text and Index – The in-house collection management system developed by The Art Institute of Chicago.</p>
CMM	<p>Color Management Module – The engine that converts the color space of the source profile to match that of the destination profile.</p>
CMS	<p>Color Management System – A software system that converts color from device to device in order to maintain color fidelity of images.</p>
CMYK	<p>Cyan, Magenta, Yellow &amp; Black – A subtractive color space used by printers.</p>
CNC	<p>Computer Numerically Controlled – Machinery used to manufacture products or generate prototypes based on CAD information.</p>
Color Management	<p>Hardware systems and software products that ensure accurate color reproduction across all devices in the workflow.</p>
Color Profile	<p>A color space definition that describes the way a hardware device handles color; contains RGB or CMYK values that are specific to the hardware, e.g. a computer monitor; color profiles can be made using profiling software and saved in a standard format call an ICC profile; color profiles are used to map color values from source to destination device.</p>
Color Space	<p>Representation of color using numeric values; two well-known models are RGB (additive color space) and CYMK (subtractive color space).</p>
Colorimeter	<p>Device used to measure color to create a color profile of a output device such as a printer or monitor.</p>
CoPAT	<p>Council for the Prevention of Art Theft</p>
Copystand Scanner	<p>A type of image-capture device that sits on a copy stand and can be raised or lowered to get closer to or farther from the material to be scanned.</p>
Corbis	<p>An online image bank with 70 million images from photographers, filmmakers, museums, cultural institutions and public and private collections that can be purchased and downloaded via the Internet. Low-resolution educational versions can be downloaded by participating educational institutions.</p>
DBMS	<p>Database Management System – A system for structuring, streamlining, and managing a database in ways not perceptual to users of the data.</p>
DCMI	<p>The Dublin Core Metadata Initiative – An open forum engaged in the development of interoperable online</p>

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	metadata standards that support a broad range of purposes and business models.
DGN	MicroStation Drawing File Format
DesignXML	An XML schema for the representation of the AutoCAD version 2002 data format.
Digital Design	Design of buildings and industrial products using software tools.
Diode	Light-sensitive electronic components used in image capture. They function as one-way valves that sense the presence or absence of light and create a digital signal that the computer converts into pixel values.
DIP	Dissemination Information Package – A set of information that is presented to the researcher containing the digital design data of interest, the associated metadata, and in some cases, the means for viewing or interacting with the data; part of the OAIS reference model.
Disaster Recovery Plan	A plan for recovering critical data and resuming operations after a catastrophic event that destroys the data storage location or its equipment.
DLF	Digital Library Federation – A consortium of libraries and related agencies that forward the use of electronic-information technologies to extend library collections and services.
DPI	Dots per inch – A measure of resolution for scanners and printers.
DTD	Document Type Definition – Defines the document structure; used by XML and SGML encoding languages.
DV	Digital Video
DWG	Autodesk's proprietary data format for AutoCAD.
DXF	Drawing Interchange Format – A complete representation of an AutoCAD drawing in an ASCII text form; there is also a binary version.
EAD	Encoded Archival Description – A standard for encoding archival finding aids using the Standard Generalized Markup Language (SGML).
FDA	Foundation for Documents of Architecture
FDA/ADAG	Foundation for Documents of Architecture/ Architectural Drawing Advisory Group – Author of the <i>Guide to the Description of Architectural Drawings</i> .
FLC	Animation file type for Autodesk Animator Pro
FLI	Animation file type for Autodesk Animator

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Format Registry	Used in conjunction with a digital archive to identify all stored file format and their properties; assigns preservation strategies.
FTP	File Transfer Protocol – Used to copy files across the Internet.
Functional Preservation	Periodically updating the format of an archived data file so that the content continues to be usable in the same way it was originally, even though the digital formats and the physical media evolve.
GDFR	Global Digital Format Registry – A project to create a single, universal format registry to serve multiple repository systems.
Getty Images	The largest online image bank with over 70 million images and 30,000 film clips that can be purchased and downloaded over the Internet.
GIF	Graphics Interchange Format
GPS	Global Positioning System – A satellite-based navigation system.
GUI	Graphical User Interface – The way the user interacts with the computer via symbolic graphics (icons).
HDRI	High Dynamic Range Images – Images with greater than 24-bit color.
HTML	HyperText Markup Language – The <i>lingua franca</i> for publishing hypertext on the World Wide Web.
IAI	International Alliance for Interoperability – An alliance of organizations within the construction and facilities management industries dedicated to improving processes within the industry through defining the use and sharing of information.
ICC	International Color Consortium – A consortium to create, promote and encourage the standardization and evolution of an open, vendor-neutral, cross-platform color management system architecture and components; defined an open color profile format that all vendors can use to standardize profile-based color management (ICC Profile Format Specification that describes).
IFC	Industry Foundation Classes – Specifications defining object class libraries for intelligent digital building models; released by the IAI.
ifcXML	An IAI initiative to develop XML schema that correspond to the IFCs.
IGES	Initial Graphics Exchange Specification – A neutral exchange format for 2D or 3D CAD product models, drawings, or graphics.

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ISO	International Organization for Standardization
ISO STEP	Standard for the Exchange of Product Model Data – An ISO standard (ISO 10303) that describes how to represent and exchange digital product information.
IT	Information Technology – A term that encompasses all forms of technology used to create, store, exchange and use information in its various forms.
ITU-T	International Telecommunication Union (preceded by CCITT) - Created lossless compression schemes for TIFF.
JBIG	Joint Bi-level Image Experts Group
JDBC	Java Database Connectivity – A programming API to allow access to most any tabular data source from the Java programming language.
JPEG (JPG)	Joint Photographic Experts Group – A lossy compression method standardized by ISO.
LandXML	An XML schema for the exchange of data created during the land planning, civil engineering and land survey processes.
LOM	Learning Object Metadata
LZW	Lempel-Zif-Welch – A lossless compression algorithm used by GIF or TIFF.
MARC	MAchine-Readable Cataloging – A data format which emerged from an initiative begun by the Library of Congress thirty years ago; provides the mechanism by which computers exchange, use and interpret bibliographic information; MARC 21 has become the standard used by most library computer programs.
MCAD	Microsoft Certified Application Developer
MD5 Checksum	A very secure form of checksum that takes an input data message and produces an 128-bit "fingerprint" or "message digest" of that input. It is believed to be not computationally feasible to produce two input messages having the same MD5 checksum, or to produce any message having a given target checksum.
MDS	Museum Documentation Standard – A common understanding of good practice for museum documentation, established in partnership with the museum community in a project called SPECTRUM, completed in the UK.
METS	Metadata Encoding and Transmission Standard – An XML-based encoding schema for digital library metadata; used by the Library of Congress.
Migration	Converting digital data from one hardware/software configuration to another to preserve its integrity and maintain accessibility over time.

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MIME	Multipurpose Internet Mail Extensions – Extends the format of Internet mail to allow non-US-ASCII textual messages, non-textual messages, multipart message bodies, and non-US-ASCII information in message headers.
Mirroring	A type of RAID (Redundant Array of Independent Disks) in which all data on one disk drive is duplicated in its entirety on another.
MOV	QuickTime MOVie format – Apple format for animation files.
MySQL	Open-source database software.
NINCH	National Initiative for a Networked Cultural Heritage – A US-based coalition of museums, libraries, archives, scholarly societies, arts groups, IT support units; created the NINCH Guide, a standard to optimize interoperability of digital materials, address preservation of original materials and enable the broadest use of and viewing of project materials.
NISO	National Information Standards Organization
OAI	Open Archives Initiative – An initiative to promote interoperability of repositories by defining a mechanism for data providers to expose their metadata in a standardized way.
OAI-PMH	OAI Protocol for Metadata Harvesting -- Makes the resources and related metadata included in museum archives available over the Web.
OAIS	Open Archival Information System – An ISO Standard that defines a conceptual framework for an archival system dedicated to preserving and maintaining access to digital information over the long term.
OCR	Optical Character Recognition software – Used for converting from scanned text images to full-text versions.
ODBC	Open DataBase Connectivity -- A standard method of sharing data between databases and other programs.
Open Source	Open-source software allows anyone to obtain the original source code without paying a licensing fee. One may also modify the code to meet special requirements.
Parametric Change Technology	Technology that automatically alters dependent parts of a building when one part is changed.
PDA	Personal Digital Assistant – A handheld computer that provides a calendar and organizer for personal information.
PDI	Preservation Description Information – A set of information needed for preservation such as digitization specifications, checksum values or digital signatures; part of the OAIS reference model.

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PDF	Portable Document Format – An open file format specification that preserves document layout and allows embedding of fonts, images, animations and PowerPoint effects and has become the de facto standard for the exchange of electronic documents and forms around the world; created by Adobe Systems, Inc. in 1993.
PDF/A	A subset of PDF format specifically for archiving; submitted to ISO in 2003 as a draft international standard.
PDF/X	An ISO standard (ISO 15930-1:2001, Graphic Technology) that defines a focused subset of PDF designed for prepress data interchange.
Pixel	The smallest discrete component of a digital image.
PLT	Plot file format – An output data format sent to large-format output devices (plotters).
PNG	Portable Network Graphics – An extensible file format for the lossless, portable, well-compressed storage of raster images.
Portal	An aggregation of disparate applications, back-end systems, services and content presented in a personalized browser window; user identification and authentication determine which applications are available to users.
PURL	Persistent Uniform Resource Locator
QTVR	QuickTime Virtual Reality – A technology that takes a series of 2D digital images of a space and stitches them together to create a 360-degree environment that a user can navigate with zoom capabilities; can also be used to create 360-degree views around a stationary object.
Radiosity Technologies	Determines how an object should be shaded based on the intensity of radiant energy i.e., light, reflection.
RAID	Redundant Array of Independent Disks – A technology that writes data to multiple drives so that a single disk failure will have no impact on data availability.
Raster image	Image representation that is a rectangular array of regularly sampled values, known as pixels; has finite dimensions as opposed to a vector image that will use mathematical calculations to create an image as the user zooms in.
Ray Tracing	A popular algorithm in computer graphics used for creating realistic 3D pictures.
Rendering Intents	Define ways of mapping color gamuts—the range of hues reproducible by a given device—between devices using different color spaces; colorimetric, perceptual or saturated are examples.

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RDF	Resource Description Framework – A language with XML syntax for representing information about resources on the Web.
RGB	Red Green Blue – An additive color space.
SAT/ACIS	The file format used by the ACIS (Andy, Charles, Ian's System) geometric engine.
SDK	Software Development Kit or Software Developer's Kit.
SGML	Standard Generalized Markup Language – An international standard that defines how to represent text in an electronic form.
SIMILE	Semantic Interoperability of Metadata Information in unLike Environments – A research project with W3C, HP and MIT Libraries to promote interoperability among digital assets, schemas, metadata and services.
SIP	Submission Information Package – A set of information prepared by the data provider that contains content files and some level of descriptive information including naming schema or project directory structure for a given set of file; part of the OAI reference model.
SLA	Stereolithography – A process for rapid prototyping that uses a vat of liquid polymer plastic that is hardened in layers by a laser to create a solid plastic object.
SLS	Selective Laser Sintering – The process of creating a physical model by using CO <sub>2</sub> to melt powdered material into a solid object.
SOAP	Simple Object Access Protocol – SOAP Version 1.2 is a lightweight protocol intended for exchanging structured information in a decentralized, distributed environment.
SQL-92	An ANSI standard database language.
sRGB	A color space that approximates the color profile of an average computer monitor.
STEP	Standard for the Exchange of Product Model Data – Complete ISO standard that describes how to represent and exchange digital data.
STL	Stereolithography – A process for rapid prototyping that uses a vat of liquid polymer plastic that is hardened in layers by a laser to create a solid plastic object.
TEI	Text Encoding Initiative – An international standard to help libraries, museums and publishers represent text online with an encoding scheme.
TGN	Thesaurus of Geographic Names
TIFF (TIF)	Tagged Image File Format – A lossless image format that conserves all the image information.

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TIFF ITU-T.6	A lossless compression version of TIFF based on Group 4 facsimile compression.
UDS	Uniform Drawing System – A system for organizing and naming architectural drawings and their associated digital data developed by the Construction Specifications Institute and incorporated in the U.S. National CAD Standard.
ULAN	Union List of Artists Names
URI	Uniform Resource Identifiers – Short strings that identify resources in the web: documents, images, downloadable files, services, electronic mailboxes, and other resources; also known as URLs.
URL	Uniform Resource Locator – Short strings that identify resources in the web: documents, images, downloadable files, services, electronic mailboxes, and other resources; also known as URIs.
URN	Uniform Resource Name – Identifies a resource or unit of information.
VRML	Virtual Reality Modeling Language – A Web-oriented ISO standard for defining three-dimensional virtual worlds in multimedia and the Internet.
W3C	World Wide Web Consortium – A consortium that develops interoperable technologies—specifications, guidelines, software, and tools—for the Web.
X3D	EXtensible 3D – A format under development by W3C to improve and expand upon VRML; in process for an ISO standard.
XML	eXtensible Markup Language – A markup language to describe documents containing structured information that includes both content (word, pictures, etc.) and their role (header, footnote, etc.).

## Glossary of Terms Used in the Digital Design Data Survey

Building Systems / Product Selection	Automated selection of products and components; not operator selection from electronic catalogs.
Collaboration	Using special-purpose applications (not email) to share information and manage shared work processes with remotely located team members or clients.
Communication / Presentation	Using more advanced computer graphics tools to improve ability to show the design concept: rendering, image montage and animation.
Construction / Fabrication	Using design data to fabricate building components (full-scale) or to generate a list of specific manufactured components or products; using robotics in construction.
Data Gathering	Digital tools used to collect information that informs the design process: site survey, program, etc.
Design Analysis / Validation	Quantitative analysis, excluding cost; from computer-generated solar penetration or shadow studies to engineering analysis.
Design Exploration	Developing a design concept on-screen: the software replaces or adds to traditional tools, such as physical model making.
Design Generation	Use of automated techniques to generate design or configure products / systems.
Documentation	Classic CAD—using computers to create drawings in the manual tradition (plans, sections, elevations).
Product Comparison / Cost Estimation	Automated generation of cost estimates from computer model of building; ability to substitute products or assemblies and compare results.
Rapid Prototyping	Data from computer model drives prototyping device.