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Pdf para dwg

File format family "DWG" redirects here. For other uses, see DWG (disambiguation). This article relies excessively on references to primary sources. Please improve this article by adding secondary or tertiary sources. Find sources: ".dwg" – news · newspapers · books · scholar · JSTOR (October 2012) (Learn how and when to remove this message) DWGFilename extension.dwg (plain).dws (standards).dwt (template)Internet media typeimage/vnd.dwg[1]Developed byAutodesk, Open Design Alliance and othersInitial release1982; 43 years ago (1982)[2]Type of formatComputer-aided designOpen format?Open but Proprietary[3] DWG (from drawing) is a proprietary[3] binary file format used for storing two- and three- dimensional design data and metadata. It is the native format for several CAD packages including DraftSight, AutoCAD, ZWCAD, IntelliCAD (and its variants), Caddie and Open Design Alliance compliant applications. In addition, DWG is supported non-natively by many other CAD applications. The .bak (drawing backup), .dws (drawing standards), .dwt (drawing template) and .sv$ (temporary automatic save) files are also DWG files. Version Internal version AutoCAD versions DWG R1.0 MC0.0 AutoCAD Release 1.0 DWG R1.2 AC1.2 AutoCAD Release 1.2 DWG R1.40 AC1.40 AutoCAD Release 1.40 DWG R2.05 AC1.50 AutoCAD Release 2.05 DWG R2.10 AC2.10 AutoCAD Release 2.10 DWG R2.21 AC2.21 AutoCAD Release 2.21 DWG R2.22 AC1001, AC2.22 AutoCAD Release 2.22 DWG R2.50 AC1002 AutoCAD Release 2.50 DWG R2.60 AC1003 AutoCAD Release 2.60 DWG R9 AC1004 AutoCAD Release 9 DWG R10 AC1006 AutoCAD Release 10 DWG R11/12 AC1009 AutoCAD Release 11, AutoCAD Release 12 DWG R13 AC1012 AutoCAD Release 13 DWG R14 AC1014 AutoCAD Release 14 DWG 2000 AC1015 AutoCAD 2000, AutoCAD 2000i, AutoCAD 2002 DWG 2004 AC1018 AutoCAD 2004, AutoCAD 2005, AutoCAD 2006 DWG 2007 AC1021 AutoCAD 2007, AutoCAD 2008, AutoCAD 2009 DWG 2010 AC1024 AutoCAD 2010, AutoCAD 2011, AutoCAD 2012 DWG 2013 AC1027 AutoCAD 2013, AutoCAD 2014, AutoCAD 2015, AutoCAD 2016, AutoCAD 2017 DWG 2018 AC1032 AutoCAD 2018, AutoCAD 2019, AutoCAD 2020, AutoCAD 2021, AutoCAD 2022, AutoCAD 2023, AutoCAD 2024, AutoCAD 2025 DWG (denoted by the .dwg filename extension) was the native file format for the Interact CAD package, developed by Mike Riddle in the late 1970s,[4] and subsequently licensed by Autodesk in 1982 as the basis for AutoCAD.[5][6][7] From 1982 to 2009, Autodesk created versions of AutoCAD which wrote no fewer than 18 major variants of the DWG file format,[8] none of which is publicly documented. The DWG format is probably the most widely used format for CAD drawings. Autodesk estimates that in 1998 there were in excess of two billion DWG files in existence.[9] There are several claims to control of the DWG format.[10] As the biggest and most influential creator of DWG files it is Autodesk who designs, defines, and iterates the DWG format as the native format for their CAD applications. Autodesk sells a read/write library, called RealDWG,[11] under selective licensing terms for use in non-competitive applications. Several companies have attempted to reverse engineer Autodesk's DWG format, and offer software libraries to read and write Autodesk DWG files. The most successful is Open Design Alliance,[12] a non-profit consortium created in 1998 by a number of software developers (including competitors to Autodesk); it released a read/write/view library called the OpenDWG Toolkit, which was based on the MarComp AUTODIRECT libraries.[13] (ODA has since rewritten and updated that code.) In 1998, Autodesk added file verification to AutoCAD R14.01, through a function called DWGCHECK. This function was supported by an encrypted checksum and product code (called a "watermark" by Autodesk), written into DWG files created by the program.[14][15] In 2006 Autodesk modified AutoCAD 2007, to include "TrustedDWG technology", a function which would embed a text string within DWG files written by the program: "Autodesk DWG. This file is a Trusted DWG last saved by an Autodesk application or Autodesk licensed application."[16] This helped Autodesk software users ensure that the files they were opening were created by an Autodesk, or RealDWG application, reducing risk of incompatibilities.[17] AutoCAD would pop up a message, warning of potential stability problems, if a user opened a 2007 version DWG file which did not include this text string. In 2008 the Free Software Foundation asserted the need for an open replacement for the DWG format, as neither RealDWG[11] nor DWGdirect are licensed on terms that are compatible with free software license like the GNU GPL. Therefore, the FSF placed the goal 'Replacement for OpenDWG libraries' in 10th place on their High Priority Free Software Projects list.[18] Created in late 2009, GNU LibreDWG[19] is a free software library released under the terms of the GNU GPLv3 license. It can read DWG files from version R13 up to 2021, and write R2000 DWG files. Also in 2008 Autodesk and Bentley Systems agreed on exchange of software libraries, including Autodesk RealDWG, to improve the ability to read and write the companies' respective DWG and DGN formats in mixed environments with greater fidelity. In addition, the two companies will facilitate work process interoperability between their AEC applications through supporting the reciprocal use of available Application Programming Interfaces (APIs).[20] On November 13, 2006, Autodesk sued the Open Design Alliance alleging that its DWGdirect libraries infringed Autodesk's trademark for the word "Autodesk", by writing the TrustedDWG watermark (including the word "AutoCAD") into DWG files it created.[21] Nine days later, Autodesk's attorneys won a broad and deep temporary restraining order against the Open Design Alliance.[22] In April 2007, the suit was settled, essentially on Autodesk's terms, with Autodesk modifying the warning message in AutoCAD 2008 (to make it somewhat less alarming), and the Open Design Alliance removing support for writing the TrustedDWG watermark from its DWGdirect libraries. The effect of the temporary restraining order and subsequent consent decree was to render the Open Design Alliance's DWGdirect libraries, from one point of view, incapable of creating DWG files that are 100% compatible with AutoCAD Unsubstantiated claim.[23] Others point out that the failure of "100% compatibility" means only that loading such a drawing triggers an essentially irrelevant warning message when the file is opened in AutoCAD.[24] In 2006, Autodesk applied for registration of US trademarks on "DWG",[25][26] "DWG EXTREME",[27] "DWG TRUECONVERT",[28] "REALDWG",[29] "DWGX",[30] "DWG TRUEVIEW".[31][32] As early as 1996, Autodesk has disclaimed exclusive use of the DWG mark in US trademark filings.[33] Out of these applications, only TRUSTEDDWG has been registered as a trademark by the USPTO. The REALDWG and DWGX registrations were opposed by SolidWorks. The DWG EXTREME, DWG TRUECONVERT, and DWG TRUEVIEW trademark registration applications all received substantial resistance, with the USPTO examining attorney requiring Autodesk to disclaim exclusive use of DWG as a condition for their registration. In a non-final action in May 2007, the USPTO examining attorney refused to register the two DWG marks, as they are "merely descriptive" of the use of DWG as a file format name. In September 2007, Autodesk responded, claiming that DWG has gained a "secondary meaning," separate from its use as a generic file format name.[34] As of June 22, 2008, all of Autodesk's DWG-related trademark registration proceedings were suspended by the USPTO, pending disposition of trademark opposition and cancellation petitions Autodesk had filed against the Open Design Alliance and Dassault Systèmes SolidWorks Corporation. The USPTO office actions notifying Autodesk of this noted that Autodesk was not the exclusive source of files with the format name DWG, and Autodesk does not control the use of DWG by others, either as a trademark or as a file format name, among other points. In 2006, Autodesk filed an opposition with the USPTO to the trademark registration of DWGGATEWAY by SolidWorks.[35] Autodesk subsequently filed a petition for cancellation of SolidWorks' trademark registration for DWGEDITOR.[36] In both cases, Autodesk's basis was that they had "been using the DWG name with its CAD software products since at least as early as 1983." The opposition and cancellation actions were consolidated, and suspended pending disposition of Autodesk's US District Court suit against SolidWorks.[37] In early 2007, Autodesk petitioned the USPTO to cancel the Open Design Alliance's "OpenDWG" trademarks, claiming that they had been abandoned.[38] This cancellation action was suspended pending disposition of Autodesk's US District Court suit against SolidWorks.[39] In 2008, Autodesk sued SolidWorks in US District Court, arguing that through its marketing efforts, the term "DWG" has lost its original generic meaning and taken on a secondary meaning referring specifically to Autodesk's proprietary drawing file format, and therefore any use of "DWG" in competitive products amounted to trademark infringement.[40] In January 2010, on the morning that trial was scheduled to begin, Autodesk and SolidWorks settled the suit, with SolidWorks acknowledging Autodesk's trademark rights for DWG, surrendering its trademark registrations for its DWG related projects, and withdrawing its opposition to Autodesk's DWG-related trademark registrations.[41] In April 2010, Autodesk and the Open Design Alliance settled their suit, with the Open Design Alliance agreeing to cancel its DWG-based trademark registrations and cease use of DWG and DWG-based trademarks in its product marketing and branding.[42] Because there was no adjudication in either case, the agreements between the parties are not binding upon the USPTO. In March 2010, the Office of the Deputy Commissioner for Trademark Examination Policy at the USPTO determined that evidence submitted by the Open Design Alliance two years earlier was relevant and supported a reasonable ground for refusal to register DWG as a trademark.[43] In June 2011 the USPTO issued a final refusal[44] to register DWG as a trademark owned by Autodesk. They were quoted as saying:[45] DWG is merely descriptive of applicant's goods under Section 2(e)(1) of the Trademark Act for two reasons: (1) DWG is a recognized abbreviation for "drawing," and (2) .dwg is a file format used for computer-aided design (CAD) drawings made both with applicant's CAD software and others' CAD software. Autodesk appealed the decision. The USPTO affirmed in 2013 their refusal to recognise DWG as a trademark.[46] Despite this, Autodesk websites still claimed DWG as a trademark after the decision.[47] In late 2014 Autodesk again lost, this time at the United States District Court for the Eastern District of Virginia. The judge dismissed all their arguments.[48] In 2015 Autodesk's website has a section title About DWG[49] in which they try to make a distinction between .dwg as a file format and the DWG technology environment. As neither RealDWG[11] nor DWGdirect are licensed on terms that are compatible with free software licenses like the GNU GPL, in 2008 the Free Software Foundation asserted the need for an open replacement for the DWG format. Therefore, the FSF placed the goal 'Replacement for OpenDWG libraries'[18] in 10th place on their High Priority Free Software Projects list.[50] Forked in late 2009 from libDWG, GNU LibreDWG[19] can read all DWG files from version R13 on. But the LibreDWG library, offered under the GNU GPLv3, could initially not be used by most targeted FOSS graphic software, such as FreeCAD, LibreCAD and Blender, because of a GPLv2/GPLv3 license incompatibility.[51][52][53] A GPLv2 licensed alternative is the libdxfrw project, which can read simple DWGs.[54] Some of these CAD licenses were only fixed recently to be able to use LibreDWG's GPLv3. FreeCAD is a free and open-source application that can work with the DWG files by using the proprietary ODA File Converter for .dwg and .dxf files from the Open Design Alliance (ODA).[55] The ODA also provides a freeware stand-alone viewer for .dwg and .dgn files, ODA Drawings Explorer, which runs on Windows, Linux, and Mac OS X. LibreCAD is a free and open-source 2D CAD application that can open DWG and DXF files using its own library. Autodesk DWG TrueView is a freeware, closed source, stand-alone DWG viewer with DWG TrueConvert software included, built on the same viewing engine as AutoCAD software. The freeware Autodesk Design Review software adds a possibility to open DWG files in Design Review to take advantage of measure and markup capabilities, sheet set organization, and status tracking. ISO 10303-21 – Widely used CAD 3D data exchange file format CAD data exchange – Method of CAD drawing file translation AutoCAD DXF – CAD software interoperability file format BricsCAD – Computer-aided design software CAD – Constructing a product by means of computer Comparison of CAD software Comparison of CAD, CAM and CAE file viewers Design Web Format – Type of file format FreeCAD – Free and open-source 3D CAD software GstarCAD – Computer aided design software IntelliCAD – CAD editor and development platform LibreDWG – Software library for handling DWG files LibreCAD – Free and open-source 2D CAD software OpenDWG – Nonprofit organization creating SDKs for engineering applicationsPages displaying short descriptions of redirect targets Open Design Alliance – Nonprofit organization creating SDKs for engineering applications ^ "Media Types". www.iana.org. Retrieved May 6, 2022. ^ "What's up with DWG adoption in free software?". Libre Arts. Retrieved February 4, 2025. ^ a b "Guides to Good Practice: Cad_3-2". Archaeology Data Service. Retrieved April 15, 2015. ^ "Mike Riddle's Prehistoric AutoCAD - Retro Thing". Archived from the original on June 29, 2009. Retrieved June 11, 2009. ^ "Existing products". Archived from the original on December 27, 2008. Retrieved June 11, 2009. ^ The Autodesk File: Footnote ^ "DigiBarn Stories: Mike Riddle & the Story of AutoCAD, EasyCAD, FastCAD & more". Archived from the original on May 25, 2009. Retrieved June 11, 2009. ^ "Autodesk blog". Archived from the original on March 23, 2010. Retrieved March 30, 2010. ^ Autodesk, Inc. "DWG Unplugged". Archived from the original on January 19, 1998. With over two billion AutoCAD DWG files worldwide... ^ DWG: The Registration Attempts & Successes from WorldCAD Access ^ a b c Autodesk - Developer Network - RealDWG ^ Originally, OpenDWG Alliance. "Open Design Alliance". Archived from the original on May 28, 2007. Retrieved June 21, 2007. ^ [1] Archived December 27, 2008, at the Wayback Machine ^ Between the Lines: How to identify some problem DWG files ^ [2] Archived April 17, 2007, at the Wayback Machine ^ This "TrustedDWG code" is encoded into DWG files in a fashion that is not humanly readable. This may be validated by using a binary editor to search a DWG file. ^ Autodesk originally used the term "Trusted DWG", with an embedded space. They modified it removing the space, prior to filing a US trademark application in September 2006, tarr.uspto.gov ^ a b FSF promotes need for open DWG packages ^ a b GNU LibreDWG ^ "Autodesk and Bentley to Advance AEC Software Interoperability". July 8, 2008. Archived from the original on February 27, 2009. Retrieved January 1, 2009. ^ "Autodesk v. ODA". Archived from the original on October 26, 2008. Retrieved October 16, 2008. ^ "Autodesk v. ODA See line 35, Transcript". Archived from the original on October 26, 2008. 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"What's up with DWG adoption in free software?". Libre Arts. Retrieved February 4, 2025. ^ Prokoudine, Alexandre (December 27, 2012). "LibreDWG drama: the end or the new beginning?". Libre Arts. Retrieved February 4, 2025. ^ "libdxfrw/Home". Sourceforge. Retrieved August 31, 2019. ^ "FreeCAD and DWG Import on freecadweb.org". FreeCAD Web. November 11, 2014. Retrieved August 31, 2019. LibreDWG is a work in progress developing Free Software libraries to support DWG files. Teigha is a software development platform used to create engineering applications including CAD with native support of .dwg and .dgn files. Specification of the .dwg file format provided by Open Design Alliance. cad-blocks Example .dwg architecture files. Retrieved from " 2Open source file format standard 3D Manufacturing FormatFilename extensions .3mfInternet media typeapplication/vnd.ms-package.3dmanufacturing-3dmodel+xml, application/vnd.ms-printing.printticket+xml, model/3mfDeveloped by3MF ConsortiumInitial release29 April 2015; 10 years ago (2015-04-29)Latest release2.2.024 August 2021; 3 years ago (2021-08-24) Container for3D printing dataContained byOpen Packaging ConventionsExtended fromZIP, XMLOpen format?YesWebsite3MF Specification 3D Manufacturing Format or 3MF is an open source file format standard developed and published by the 3MF Consortium.[1][2] 3MF is an XML-based data format designed specifically for additive manufacturing. It includes information about materials, colors, and other information that cannot be represented in the STL format.[3][4] 3MF is part of the Linux open standards project[5] and is not intended to compete in the traditional CAD space. It is designed to be much simpler to implement than the full CAD formats.[6] Today, CAD software related companies such as Autodesk, Dassault Systèmes, PTC, and Netfabb are part of the 3MF Consortium. Other firms in the 3MF Consortium are Microsoft (for operating system and 3D modeling support), SLM and HP, whilst Shapeways are also included to give insight from a 3D printing background.[7] Other key players in the 3D printing and additive manufacturing business, such as Materialise, 3D Systems, Siemens Digital Industries Software and Stratasys have recently joined the consortium.[8] To facilitate the adoption, 3MF Consortium has brought on new associate members and Executive Director to increase awareness and adoption[9] while also published a C++ implementation of the 3MF file format.[10] Below are a list of some of the advantages of the 3MF format, supplied by the consortium.[11] Full color and texture support in a single file Support structures attached to part data Full tray support for direct machine preparation Thumbnails, viewing, and printing in Microsoft Windows[dubious – discuss] Multiple material support Beam extension for complex lattice structures[12] Slice extension for machine data Secure end to end encryption[13] Volumetric communication of data at voxel level[14] Designed for industrial manufacturing Native integration in Microsoft Office and Paint 3D Autodesk HP 3D Systems Dassault Systèmes EOS Hexagon Materialise Microsoft nTopology PTC Siemens Altair SLM Stratasys Ultimaker Viaccess.Orca Prusa [15] Source:[16] 3D printing marketplace Open XML Paper Specification X3D Additive Manufacturing File Format glTF File Format ^ "3MF Website". 3MF. 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View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500)AutoCAD (links | edit) AutoCAD DXF (links | edit) Computer-aided design (links | edit) CATIA (links | edit) List of free and open-source software packages (links | edit) ACIS (links | edit) Sketchpad (links | edit) SPICE (links | edit) List of file formats (links | edit) Mentor Graphics (links | edit) Electronic design automation (links | edit) VariCAD (links | edit) MicroStation (links | edit) Creo Parametric (links | edit) Magic (software) (links | edit) FastCAD (links | edit) Autodesk Alias (links | edit) .dwg (links | edit) SolidWorks (links | edit) Computer-aided industrial design (links | edit) IGES (links | edit) BRL-CAD (links | edit) ISO 10303 (links | edit) QCAD (links | edit) 3D printing (links | edit) EAGLE (program) (links | edit) Wavefront .obj file (links | edit) CADSTAR (links | edit) TARGET (CAD software) (links | edit) STL (file format) (transclusion) (links | edit) UNISURF (links | edit) 3D scanning (links | edit) OrCAD (links | edit) Parasolid (links | edit) Geometric modeling kernel (links | edit) XCircuit (links | edit) Open Cascade Technology (links | edit) Rhinoceros 3D (links | edit) GEDA (links | edit) Ngspice (links | edit) Design Web Format (links | edit) Salome (software) (links | edit) Zuken (links | edit) FreePCB (links | edit) Micro-Cap (links | edit) Oregano (software) (links | edit) Archicad (links | edit) Pro/DESKTOP (links | edit) Quite Universal Circuit Simulator (links | edit) NI Multisim (links | edit) View (previous 50 | next 50) (20 | 50 | 100 | 250 | 500) Retrieved from " WhatLinksHere/3D_Manufacturing_Format" Share — copy and redistribute the material in any medium or format for any purpose, even commercially. 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