

10 Best 3D Modeling Software Tools

Used in industries like 3D printing, film, animation, gaming, architecture, and interior design, 3D models are crucial components of digital production. That's why choosing the right 3D modeling software is important; it helps to realize your creative ideas with a minimum of fuss. But choosing the right 3D modeling software for the job is often difficult because of various aspects and the wide range of features available in these applications. To help you with making the right choice, here's a list of 10 best 3D modeling software tools for personal or professional modeling.

These 3D modeling software tools allow for the building and customizing models from scratch, and there's a software suite pitched at every stage of learning, whether you're a complete beginner or an experienced professional.

Best 3D Modeling Software #1: <u>SolidWorks</u>

SolidWorks, is a solid modeling computer-aided design (CAD) and computer-aided engineering (CAE) computer program that runs on Microsoft Windows. SolidWorks is developed and published by Dassault Systèmes.

According to the publisher, over 2 million engineers and designers at more than 165,000 companies used SolidWorks as of 2013. Also according to the company, fiscal year 2011–12 revenue for SolidWorks totaled \$483 million.

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SketchUp is a 3D modeling software for a wide range of drawing applications such as architectural, interior design, civil and mechanical engineering, film, and video game design. It's available in a freeware version, SketchUp Make, and a paid version with additional functionality, SketchUp Pro.

The program includes drawing layout functionality, allows surface rendering in variable "styles", supports third-party plugins programs hosted on a site called Extension Warehouse to provide other capabilities (e.g. near photo-realistic rendering). There's also an online open source library called 3D Warehouse, where users can contribute models.



Best 3D Modeling Software #3: <u>Autodesk Fusion 360</u>

Best 3D Modeling Software #2: Sketchup

Fusion 360 is a cloud-based 3D modeling software tool with professional capabilities but is far more user-friendly than other professional solid-body modeling programs. At 800 MB, the installation is relatively lightweight and runs on both Mac and Windows. It supports easy file sharing, version control, import/export of common CAD file types, and has powerful parametric tools and analytic mesh tools that are well-suited to the challenges in designing (for example) low-cost prosthetics.

Best 3D Modeling Software #4: CATIA



CATIA is an acronym for Computer Aided Three-Dimensional Interactive Application. The multi-platform application wears three hats; firstly as computer-aided design (CAD), secondly as computer-aided manufacturing (CAM), and thirdly as a computer-aided engineering (CAE) software suite. The 3D modeling software is written in the C++ programming language and developed by the French company Dassault Systèmes.

Best 3D Modeling Software #5: Blender



Blender is a professional free and open-source 3D computer graphics software application for creating animated films, visual effects, art, 3D printed models, interactive 3D applications, and video games. Blender's dizzying array of features includes 3D modeling, UV unwrapping, texturing, raster graphics editing, rigging and skinning, fluid and smoke simulation, particle simulation, soft body simulation, sculpting, animating, match moving, camera tracking, rendering, video editing, and compositing. PLUS, it features an integrated game engine.

Best 3D Modeling Software #6: <u>AutoCAD</u>



The big granddaddy of the 3D modeling software tools, AutoCAD is a commercial software application for 2D and 3D computer-aided design (CAD) and drafting — available since 1982 as a desktop application and since 2010 as a mobile, web- and cloud-based app marketed as AutoCAD 360.

DID YOU KNOW? Before the introduction of AutoCAD, most commercial CAD programs ran on mainframe computers or minicomputers, with each CAD operator (user) working at a separate graphics terminal. AutoCAD is used across a wide range of industries; by architects, project managers, engineers, graphic designers, and other professionals.

Best 3D Modeling Software #7: <u>Autodesk 123D</u>



Autodesk 123D is a suite of hobbyist CAD and 3D modeling software tools created by Autodesk. It's similar in scope to SketchUp, and is based on Autodesk's Autodesk Inventor. It is currently freely downloadable with the possibility of premium membership.

As well as the more basic drawing and 3D modeling capabilities, it also has assembly and constraint support and STL export. Available for the software is also a library of ready-made blocks and objects.

Autodesk is also working in collaboration with three companies — Ponoko, Techshop and 3D Systems — to enable users of 123D to create physical objects from their designs using 3D printers.

Best 3D Modeling Software #8: <u>Rhino3D</u>

Rhino3D is a commercial 3D computer graphics and computer-aided design (CAD) application software available for Microsoft Windows and Mac OS X. Rhinoceros geometry is based on the NURBS mathematical model, which focuses on producing a mathematically precise representation of curves and freeform surfaces in computer graphics (as opposed to polygon mesh-based applications).

Rhinoceros is used in processes of computer-aided design (CAD), computer-aided manufacturing (CAM), rapid prototyping, 3D printing, and reverse engineering in industries including architecture, industrial design (e.g. automotive design, watercraft design), product design (e.g. jewelry design), as well as for multimedia and graphic design.

Best 3D Modeling Software #9: OpenSCAD



OpenSCAD is a free software application for creating solid 3D CAD objects. It is not an interactive modeler, but rather a 3D compiler based on a textual description language. An OpenSCAD document specifies geometric primitives and defines how they are modified and manipulated to render a 3D model. OpenSCAD is available for Windows, Linux, and OS X. It also does constructive solid geometry (CSG).

Best 3D Modeling Software #10: <u>Autodesk Inventor</u>



Autodesk Inventor is a 3D mechanical solid modeling design software developed by Autodesk to create 3D digital prototypes. It is used for 3D mechanical design, design communication, tooling creation and product simulation. This software enables users to produce accurate 3D models to aid in designing, visualizing and simulating products before they are built.

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