

2019 Best Free Online CAD Software



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Check out our guide to the best free online CAD software available right now for online 3D modeling. Some tools can be upgraded to add even more features.

When learning how to use CAD software, there are a number of obstacles to hurdle in order to actualize your 3D ideas on the expansive digital workspace. This includes the steep learning curve that comes with mastering CAD software, the commitment of time, and sometimes the cost of the software itself.

Thankfully, you can find a variety of free online CAD software tools if you know where to look. Free online CAD software tools enable users to conduct even sophisticated engineering projects, oftentimes from within a standard web browser.

There are many benefits to using free online CAD software tools. The most obvious advantage is that no commitment or cash is required to get started. There's also no need to install large programs that eat away at your disk space.

In addition, many of the more advanced free online CAD software tools showcased here are scalable, meaning that you can buy additional cloud storage, access for more collaborators or an extended feature-set when the need arises. This is a major advantage especially for small businesses that are forced to calculate on a lean budget.

We've broken this list down into three sections to help you find exactly what you're looking for:

- [Beginner](#)
- [Intermediate](#)
- [Professional](#)

Name	Level	Price (USD)	CAD Type
3D Slash	Beginner	Free, Premium from \$2/month	3D
BlocksCAD	Beginner	Free	3D
SculptGL	Beginner	Free	3D
TinkerCAD	Beginner	Free	3D
Smoothie 3D	Beginner	Free	3D
3dc.io	Beginner	Free	3D
Leopoly	Beginner	Free	3D
Clara.io	Intermediate	Free, Premium from \$10/month	3D
SelfCAD	Intermediate	Free, Premium \$15/month, edu. discount	3D
SketchUp Free	Intermediate	Free	2D/3D
Vectary	Intermediate	Free, Premium from \$19/month	2D/3D
AutoCAD Web App	Professional	Free (Students) Regular \$400 to \$1610/year	2D/3D
Fusion 360	Professional	Free (Students), Regular \$495/year	2D/3D
OnShape	Professional	Free (Students), Regular from \$1,500/year	3D

Advertisement

Free Online CAD Software for Beginners

1

Free Online CAD Software

3D Slash



- **Name** 3D Slash
- **Level** Beginner
- **Price (USD)** Free, Premium from \$2/month
- **Formats** 3dslash, obj, STL
- **CAD Type** 3D
- **Jump to** [3D Slash](#)

Looking for online CAD software with a twist? In 3D Slash, you will not encounter run-off-the-mill 3D modeling tools like extrusion, revolution or sweeps. Instead, this free online CAD software tool is centered around the cuboid, a solid block that can be subdivided into smaller blocks of identical size. Just think of Minecraft, and you'll get the idea.

In the same vein, users of 3D Slash create their 3D designs by working the cuboid with an array of tools that will not be familiar with most other free online CAD software tools: hammer, trowel, chisel, pulpwood, and drill. Thus, you use the hammer tool to remove individual cubes, while the trowel adds cubes and so forth.

Creating 3D designs with these tools is a piece of cake – even for beginners! With only a little training you can achieve impressive results, like a lightsaber (see our tutorial below). Also, you can import, and modify existing 3D designs. For your convenience, this free online CAD software tool ties in with a range of online printing services and model repositories. Or you can simply export your 3D design to STL, and print it on your 3D desktop printer.

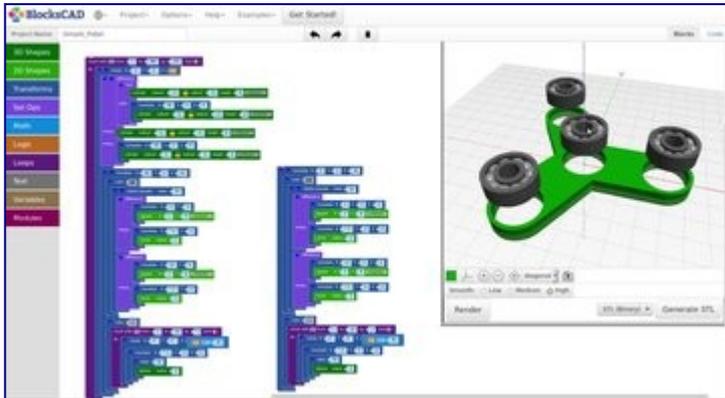
The playful, hands-on approach will be especially gratifying for hobbyists who want to create their 3D designs without having to master the mysterious lore of more conventional free online CAD software tool.

Apart from the browser-based version, this free online CAD software tool is also available as a desktop app for Windows, macOS, Linux, and Raspberry Pi.

3D Slash Review: [3D Slash Review: 3D Modeling Made Super Easy](#)

3D Slash Tutorial for Beginners: [3D Slash Tutorial for Beginners: How to Use 3D Slash](#)
Best Free Online CAD Software Tool for: Hobbyists with an eye on quick results.

BlocksCAD



- **Name** BlocksCAD
- **Level** Beginner
- **Price (USD)** Free
- **Formats** dxf, off, STL
- **CAD Type** 3D
- **Jump to** [Blocks CAD](#)

In a time when we expect software to intuitively anticipate our actions, the concept of writing 3D objects as code in OpenSCAD exerts a fascinating approach to CAD. Because of its seemingly arcane and idiosyncratic approach to 3D modeling, this free CAD software tool remains steeped in mystery to many who would like to learn OpenSCAD.

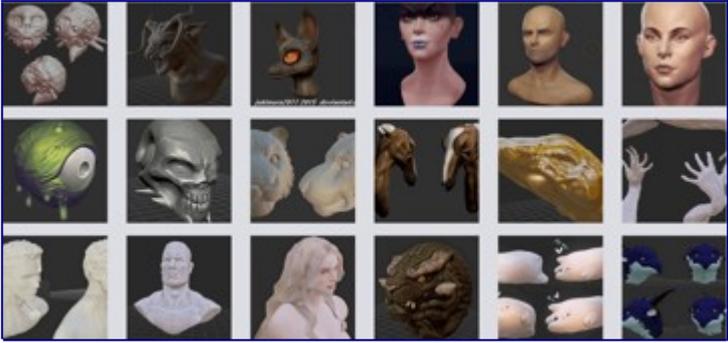
BlocksCAD is a free online CAD software tool that was developed to ease kids into the craft of 3D modeling but without forcing them to learn OpenSCAD. This means that with this program, anyone should be able to work with OpenSCAD. The commands denoting objects, transformations, etc. are represented by colorful blocks that are stacked together like LEGO-bricks. Once you are satisfied with your work, you can render the 3D model to inspect it. The finished design can be saved in the OpenSCAD or STL format.

Don't get us wrong, it is still not a trivial matter to model with BlocksCAD. To create a flower pot, for example, you'll have to create two cylinders of different diameters and then link them with a subtract transformation. In other words, this free online CAD software tool cannot read your mind. It still expects you combine the code blocks in a sensible way.

However, with only basic knowledge of the language, this program allows you to create valid OpenSCAD code. This is because BlocksCAD knows which code blocks are compatible with each other. Along the way, you can easily gain a grasp on OpenSCAD, as you can display the bare code and understand how the changes in your blocks affect the 3D model and the code.

Best Free Online CAD Software Tool for: Kids who want to start 3D modeling – and everyone else who can't wrap his head around OpenSCAD.

SculptGL



- **Name** SculptGL
- **Level** Beginner
- **Price (USD)** Free
- **Formats** obj, ply, sql, STL
- **CAD Type** 3D
- **Jump to** [SculptGL](#)

Do you want to model animals or even human beings? Then, traditional free online CAD software tools likely won't do the trick – especially if you're just getting your bearings in the world of 3D design. However, there is an alternative approach to traditional 3D modeling called 3D sculpting.

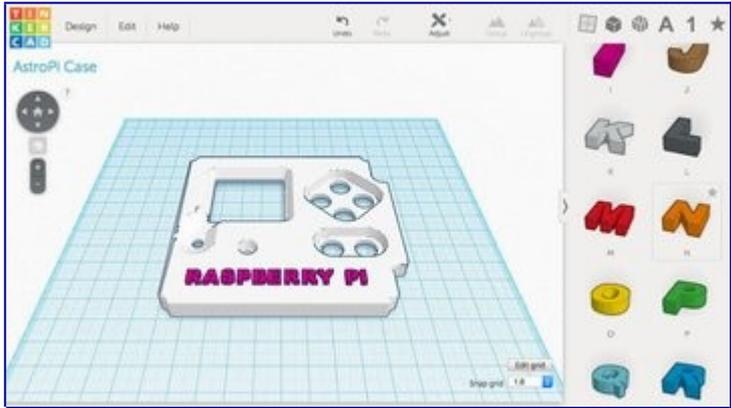
Whereas some commercial options on the market have pretty steep learning curves, the free online CAD software tool SculptGL is easier to get accustomed to. It includes the basic tools necessary and allows you to give you a sense of the sculpting workflow. But the best thing is, you can enjoy all of this in the comfort of your web browser!

As with more advanced sculpting tools, the main concept is that you don't try to create a high-resolution mesh right from the start. Instead, you build up the levels of details step by step. The groundwork is always to define the silhouette (arms, heads, limbs) in very broad brushes. From there you can switch to smaller brushes, and sculpt large details, pronounced muscles, fingers, and the like. Only then should you add intricate details like wrinkles or scars using finer brushes.

This being a free online CAD software tool, the number and complexity of objects that you can create are limited to the minimum. For anyone just curious about 3D sculpting, SculptGL is a great way to overcome the learning curve. If you want to level up, you can give another free 3D sculpting tool available for download a try, such as Sculptris.

Best Free Online CAD Software Tool for: Beginners who want to dabble in 3D sculpting.

TinkerCAD



- **Name** TinkerCAD
- **Level** Beginner
- **Price (USD)** Free
- **Formats** 123dx, 3ds, c4d, mb, obj, svg, STL
- **CAD Type** 3D
- **Jump to** [TinkerCAD](#)

Made by industry-leading software company Autodesk, TinkerCAD is an incredibly user-friendly and beginner-level 3D modeling tool. Truth be told, TinkerCAD is not the most powerful free online CAD software tool on this list. However, it does offer a surprising level of functionality that will suit anyone from first-timers, to even the most advanced of CAD users just looking for a quick and easy way to throw a simple 3D design together.

TinkerCAD's visual interface is designed to let you operate in a "building block" mode. So if you want to make a cube, you drag-and-drop it into place, input your measurements, and voilà, you're on your way to building block-based models.

Put simply, this free online CAD software tool is very much a "what you see is what you get" tool. There are also many pre-built designs to choose from that you can modify to suit your needs. While it won't offer much in the way of an artistic modeling functionality, it completely makes up for that by offering a very straightforward user-friendly approach to barebones 3D design. TinkerCAD also has a very dedicated community around it allowing users to see the potential of this basic, entirely cloud-based free online CAD software tool.

Don't miss:

- [Tinkercad Tutorial: 5 Easy Steps for Beginners](#)
- [Tinkercad Designs: 26 Cool Tinkercad Ideas & Projects](#)

Best Free Online CAD Software Tool for: Beginners and hobbyists who want to create 3D designs hassle-free.

Smoothie 3D



- **Name** Smoothie 3D
- **Level** Beginner
- **Price (USD)** Free
- **Formats** obj, STL, vrmf
- **CAD Type** 3D
- **Jump to** [Smoothie](#)

[Smoothie 3D](#) is a free online modeling tool that will assist artists and designers in the creative process. You need to register to begin modeling, but once that's done, it is very simple and intuitive to use. Objects can be imported as OBJ or STL files. Once completed, your design can be exported to Sketchfab, Shapeways, i.materialise, 3DHubs, or it can be exported as an OBJ, STL or VRML 2 file.

The 3D models are created with several primitive shapes, such as cubes, spheres, cylinder, cones, and text, which can also be scaled to your liking. To create them, just click on the related item or check their tutorial for a more thorough walkthrough. More interesting or complex shapes can be achieved by applying strokes to the model. Additional features include translation and rotation in the three axes and combinations of symmetry operations.

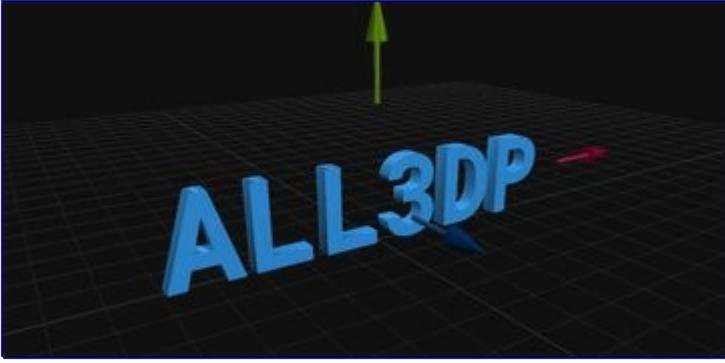
Perhaps the coolest feature of Smoothie 3D, however, is the ability to create a 3D object over a 2D image. You can import a picture or an image, create simple geometries over the 2D object, and rotate it to see the newly created 3D object. Stretch or expand your sketches to achieve a more realistic look.

Best Free Online CAD Software Tool for: Beginners that need to give transform 2D pictures into the third dimension.

Don't miss:

- [Image to 3D Model: How to Create a 3D Model From Photos](#)

[3dc.io](#)



- **Name** 3dc.io
- **Level** Beginner
- **Price (USD)** Free
- **Formats** obj, STL
- **CAD Type** 3D
- **Jump to** [3DC](#)

Are you a CAD newbie looking for a free CAD software tool that can be used anywhere, at any time. Allow us to introduce you to 3dc.io, a free platform that's available for iOS, Android, and for the web. 3DC is a modeling platform that is primarily intended for educational purposes.

3DC's claim to fame is that anyone can easily get involved in 3D modeling, with every design being 3D printable. Additionally, files can be shared across various platforms and viewed on any device. As for its educational aims, 3DC aspires for smart learning and the use of tablets and smartphones. It is built on the principle of immersive and creative design, leading to tangible learning outcomes for beginners and students. These processes are enhanced through the built-for-collaboration platform.

For simple modeling online, 3dc.io is an intuitive and free solution. Users can take basic geometric forms or imported models, as well as models created by other users, and adopt or implement them into their own creation. To download or export the files, simply create a free account and CAD the day away.

Best Free Online CAD Software Tool for: Beginners and educational purposes. It's great when you need to have access to your designs from any device.

Leopoly



- **Name** Leopoly
- **Level** Beginner
- **Price (USD)** Free
- **Formats** stl,obj
- **CAD Type** 3D
- **Jump to** [Leopoly](#)

Created by ZSpace, Leopoly is a free browser-based platform designed for novice designers who want to learn how to create, customize, and prepare 3D models for 3D printing. Ideal for beginners or students who are just getting into 3D modeling, this CAD software offers an easy-to-understand introduction to a rather complex art.

Unlike some more professionally-driven CAD programs, Leopoly is more of a 3D sculpting tool. However, for an entry-level program, it does a fine job of showing newcomers how to become well-versed in the realm of 3D creation.

On top of that, Leopoly is incredibly easy to use, equipped with a simple interface and accessible commands. For instance, users can take a ball of clay or pre-defined shapes and modify them with a variety of tools, including sculpting, painting, embossing and more. Using the interface, freshly created 3D models can be sent directly to the 3D printer. The platform is one of many created for educational purposes by the ZSpace team, and there's even a curriculum to guide students through the basics of 3D modeling.

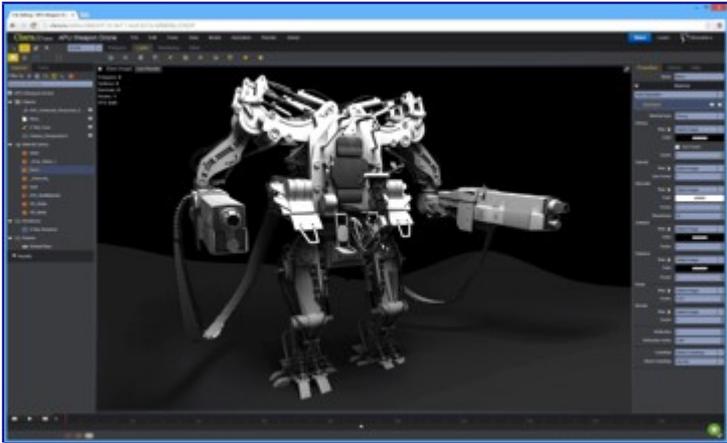
This browser-based program also offers a fully integrated library for users to browse existing projects and build upon them, as well as various customizers that make it easy to leave a personal mark on whatever you end up creating.

Best free CAD software for: Students and beginners looking to get acquainted with the world of 3D design.

Advertisement

Free Online CAD Software for Intermediate Users

[Clara.io](https://clara.io)



- **Name** Clara.io
- **Level** Intermediate
- **Price (USD)** Free, Premium from \$10/month
- **Formats** 3dm, 3ds, cd, dae, dgn, dwg, emf, fbx, gf, gdf, gts, igs, kmz, lwo, rws, obj, off, ply, pm, sat, scn, skp, slc, sldprt, stp, stl, x3dv, xaml, vda, vrml, x_t, x, xgl, zpr
- **CAD Type** 3D
- **Jump to** [Clara.io](https://clara.io)

Clara.io is an impressively powerful browser-based free 3D CAD software. Like any desktop solution, it includes all the common modeling tools used in polygon modeling, such as extrusion, beveling, slicing, cutting, and looping. In terms of texture maps, you also get UV mapping. All in all, it essentially comes with pretty much everything you need for basic 3D modeling purposes.

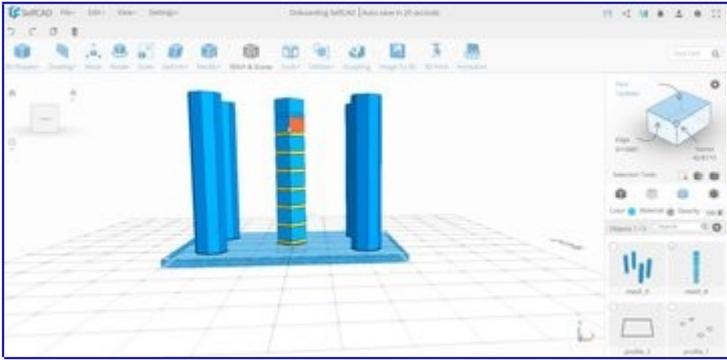
But Clara.io goes beyond the functionality you would expect from the average free online CAD software tool. It includes V-Ray, which allows you to light your meshes using an HDR image and many other nifty tricks. And, since it's equipped with basic keyframe animation, Clara.io is even a viable tool for computer-animated movies.

One of the many useful features of this free online CAD software tool is collaboratively working on projects. Similarly to Google Docs, you can add other Clara.io users to the scene that can then modify the file. Every change made is automatically synced between the accounts, this means other users get to see the scene transforming before their eyes instantaneously. This allows for a truly collaborative experience.

The free version of Clara.io gives you 5GB cloud storage. The commercial options include more storage, unlimited private scene, and unlimited personal rendering. We have no doubt in our mind that this is one of the best free online CAD software tools for those who already have a bit of CAD experience.

Best Free Online CAD Software Tool for: Intermediate users working on ambitious and collaborative projects.

SelfCAD



- **Name** SelfCAD
- **Level** Intermediate
- **Price (USD)** Free, Premium \$15/month, edu. discount
- **Formats** STL, mtl, ply, dae, svg
- **CAD Type** 3D
- **Jump to** [SelfCAD](#)

SelfCAD is the self-proclaimed “leader in online 3D modeling and slicing software”. Indeed, this free online CAD software tool packages the complete design-to-print workflow in one neatly presented bundle. At its core, SelfCAD features a robust 3D CAD application that allows for the design of complex and 3D printable objects.

Built around an intuitive GUI and offering TinkerCAD-level of simplicity, virtually anyone can dive in and start creating. You can also load in a flat image to serve as a template to your workings, so a reference is always at hand. In addition, this free online CAD software tool comes with a number of handy generators, so there is no need to model complex structures, like screws, nuts, and spirals from scratch.

But perhaps the defining proficiency of SelfCAD as a free online CAD software tool is its inherent ability to prepare models for 3D printing, even taking the job as far as slicing and piping the g-code directly to your computer. A host of predefined RepRap 3D printers are available from the drop-down menu, but you can also enter the specifications for any model that is not included.

With the latest update, SelfCAD overhauled the UI for an even more streamlined experience as well as included some useful features such as 3D animation features, a snap tool, or an improved loft tool.

Best Free Online CAD Software Tool for: 3D printing makers looking to get up to speed with 3D design in a quick and efficient manner.

SketchUp Free



- **Name** SketchUp Free
- **Level** Intermediate
- **Price (USD)** Free
- **Formats** dwg, dxf, 3ds, dae, dem, def, ifc, kmz, STL
- **CAD Type** 2D/3D
- **Jump to** [Sketchup Free](#)

SketchUp has become a staple program in the field of 3D CAD. What immediately strikes first-time users of SketchUp is its neat and tidy interface, which makes it incredibly easy to navigate and use. There are not too many buttons, something that can boggle beginners during the learning phases. And, thanks to the intuitive tools that allow for navigation and sculpting accurately in the 3D view, it is possible to create simple 3D printable models from scratch within the first few hours of learning.

The free online CAD software tool also includes drawing layout functionality, and allows surface rendering in a variety of “styles.” SketchUp comes with its exchange repository integrated into the program itself: 3D Warehouse – a library where over 2.2 million SketchUp models can be downloaded directly into the program.

Users of the Premium version of SketchUp (available for Windows and macOS) are able to add new features to the program by installing extensions – many of them free of charge – so there is virtually no limit to its potential capabilities. Also, the support of this free online CAD software tool for 3D printing is already impressive and growing every minute.

Tutorials:

- [SketchUp for 3D Printing: A Tutorial for Beginners](#)
- [How To 3D Print Text Using SketchUp](#)

Best Free Online CAD Software Tool for: Advanced users looking for professional online CAD software.

Vectary



- **Name** Vectary
- **Level** Intermediate
- **Price (USD)** Free, Premium from \$19/month
- **Formats** gITF, GLB, STL
- **CAD Type** 2D/3D
- **Jump to** [Vectary](#)

Are you in need of a fresh take on CAD? Allow us to introduce you to Vectary. Just considering its innovative user interface and approach to collaboration, this free online CAD software tool is definitely worth your attention. For instance, this free CAD software already includes parametric modeling, a feature that allows for quick adaptations of the mesh using sliders and selections that are mostly found in professional engineering suites like Fusion 360.

But, since the program doesn't rely on precise measurements, this doesn't make Vectary an ideal program for hardcore engineers. Instead, designs are created in a 3D viewport using subdivision modeling and then transformed using various tools, making this free online CAD software tool better equipped for the needs of designers. Also, Vectary emphasizes user collaboration as all models are saved in the cloud and can be easily shared. As the API is expected to be published in the future, the functionality can potentially be expanded using various plugins.

Although the range of features is amazing for a 3D modeling program that runs in the browser, this comes at a price. Don't underestimate how much memory this free online CAD software tool takes up. Vectary's free plan includes 10 private projects and unlimited public projects. Business options allow for a larger number of projects and various other perks.

Best Free Online CAD Software Tool for: Intermediate to advanced users who need to create quick reiterations of their designs.

Advertisement

Free Online CAD Software for Professionals

[AutoCAD Web App](#)



- **Name** AutoCAD Web App
- **Level** Professional
- **Price (USD)** Free (Students) Regular \$400 to \$1610/year
- **Formats** dwg, dxf, pdf
- **CAD Type** 2D/3D
- **Jump to** [AutoCAD Web App](#)

In its purest form, AutoCAD is neither browser-based nor free (unless you're a student or teacher, that is). However, it's worth mentioning that this wildly popular professional CAD software, developed by Autodesk, has a web-based component that makes it possible to work on CAD drawings outside of the software's workflow.

The AutoCAD Web App is included with both AutoCAD and AutoCAD LT, which is a more affordable and lightweight version of this CAD powerhouse. With this online app, users can view and edit CAD drawings through a web browser, making the entire AutoCAD ecosystem more versatile and accessible.

AutoCAD is a commercial 2D and 3D computer-aided design (CAD) software made that has been available since 1982, while a mobile version was released back in 2010. What makes this CAD software such an appealing option to professional users and many industries? To start, it has everything one needs to succeed in creating and optimizing 2D and 3D CAD drawings.

Users are able to draft up 2D and 3D models with solids, surfaces, and mesh objects, while a grand selection of add-on apps and APIs make it completely customizable. The ability to personalize AutoCAD provides designers with access to application-specific features for several industries, including architecture, engineering, graphic design, management, and others.

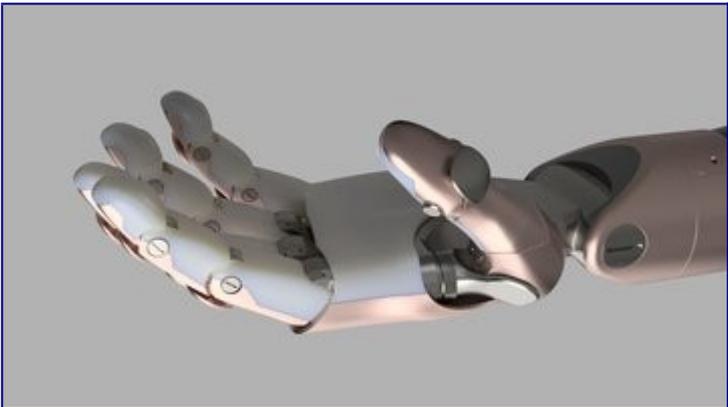
For regular users, AutoCAD costs a whopping \$1,610 per year, while the more limited AutoCAD LT is priced at \$400 per year. Thankfully, students and teachers may be able to access this CAD software for free through an educational subscription.

Best Free Online CAD Software Tool for: Professionals and college students looking to design 2D and 3D CAD drawings for application-specific purposes.

Tutorials:

- [2019 AutoCAD Tutorial: 6 Easy Steps for Beginners](#)

Fusion 360



- **Name** Fusion 360
- **Level** Professional
- **Price (USD)** Free (Students), Regular \$495/year
- **Formats** catpart, dwg, dxf, f3d, igs, obj, pdf, sat, sldprt, stp
- **CAD Type** 2D/3D
- **Jump to** [Fusion 360](#)

Another beloved Autodesk product, Fusion 360 is an advanced CAD software tool that is also free for students, educators, and academic institutions. This highly popular software encompasses the whole process of planning, testing and executing a 3D CAD design. To this end, users can harness powerful parametric tools and analytic mesh tools that are well-suited to most challenges in industrial design. Moreover, it is able to simulate both the construction of the components designed as well as the stresses they will face once they are put to their use.

Much like OnShape, all of your files in this free online CAD software tool are kept in cloud-based storage. This allows users to collaborate in large projects effortlessly. Fusion 360 supports cloud-based file sharing, version control and import/export of common CAD file types. Unlike most of the other free online CAD software tools on this list, the main component of Fusion 360 requires a locally installed app.

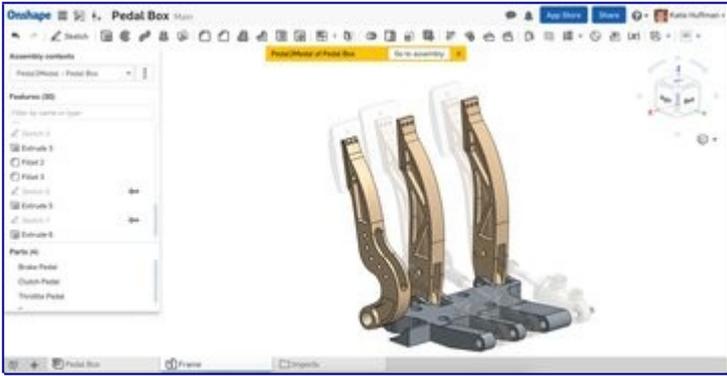
And, this goes without saying, but Fusion 360 also has excellent support for 3D printing. CAD files are directly imported into the Autodesk Printing Studio, which gently guides the user through the process of turning their model into a 3D printable file. Here you find the necessary tools to repair your mesh and a preview of the printing process. Beyond any doubt, Fusion 360 is one of the best free online CAD software tools on the market. We would recommend it to anyone who wants to dig deep and explore advanced CAD design.

Best Free Online CAD Software Tool for: Professionals and students.

Don't Miss:

- [2019 Fusion 360 Tutorial for 3D Printing – 4 Easy Steps](#)
- [What Is Fusion 360? – Simply Explained](#)

OnShape



- **Name** OnShape
- **Level** Professional
- **Price (USD)** Free (Students), Regular from \$1,500/year
- **Formats** sat, step, igs, iges, sldprt, stl, 3dm, dae, dxf, dwg, dwt, pdf, x_t, x_b, xsm_txt, ssm_bin
- **CAD Type** 3D
- **Jump to** [OnShape](#)

One of the most impressive online CAD software tools in this list in terms of functionality is OnShape. Founded by two former Solidworks CEOs, Jon Hirschtick and John McElaney, OnShape offers a strong Solidworks competitor that is entirely cloud-based and free for students and educators.

How does this free online CAD software tool compare to its competitors? On this list, OnShape is one of the most functional and portable of the options: It is the only one that has an Android and iOS app, allowing you to view and modify designs from your tablet or smartphone. OnShape also offers a lot of features that are similar to Fusion 360, such as simulations of multi-part assemblies. Recently, OnShape added a function called FeatureScript, which is a new open-source programming language for creating and customizing CAD features.

When it comes to engineering integration, OnShape is no slouch. It does a wonderful job of streamlining the entire engineering workflow from start to finish all in one entirely cloud-based model. There is a ton of customization options available which will appeal to many CAD users familiar with other programs like AutoCAD or Solidworks.

Apart from the browser version, this free online CAD software tool is also available as an app for Android and iOS.

Best Free Online CAD Software Tool for: Professionals who want a portable, yet powerful solution.

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