3D PRINTING AT THE DABBLE BOX

The Dabble Box uses a LulzBot TAZ 6 as its primary 3D printer. A Flashforge Creator Pro printer is also available.

COMMERCIAL RESOURCES

Shapeways (www.shapeways.com)

Shapeways allows users to upload their own models, use its model generators, or buy pre-made models. You can also sell your own models on Shapeways. It provides a wide selection of materials including various metals, plastics, and even sandstone.

Sculpteo (www.sculpteo.com/en)

Sculpteo works very similarly to Shapeways in regard to uploading and selling models. There are no model generators, but Sculpteo has more tools for model preparation. Prints are more expensive, but are shipped sooner than Shapeways.
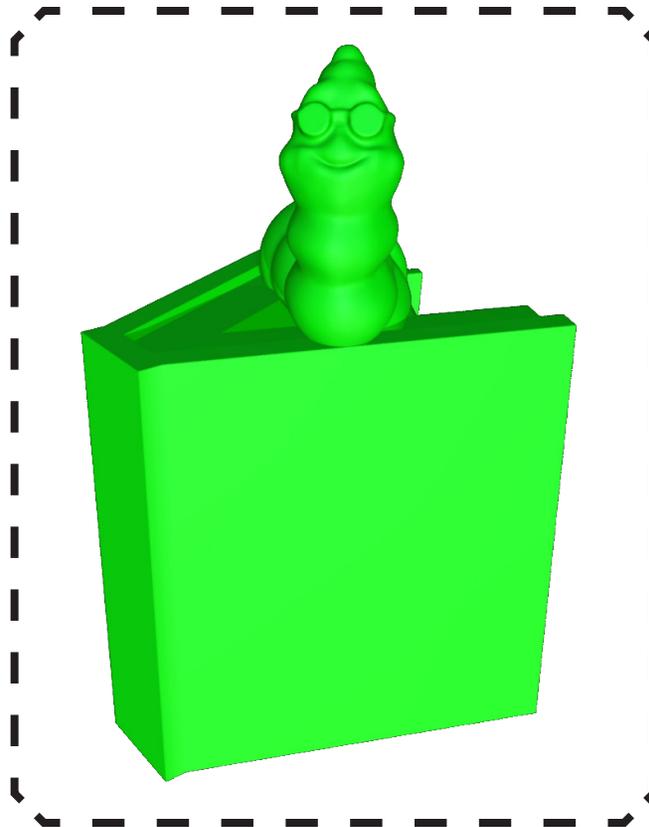
3D MODEL HOSTS

Sketchfab

You can share and sell models on Sketchfab. It provides various methods for sharing content including embedding your examples in your own website.

p3d.in

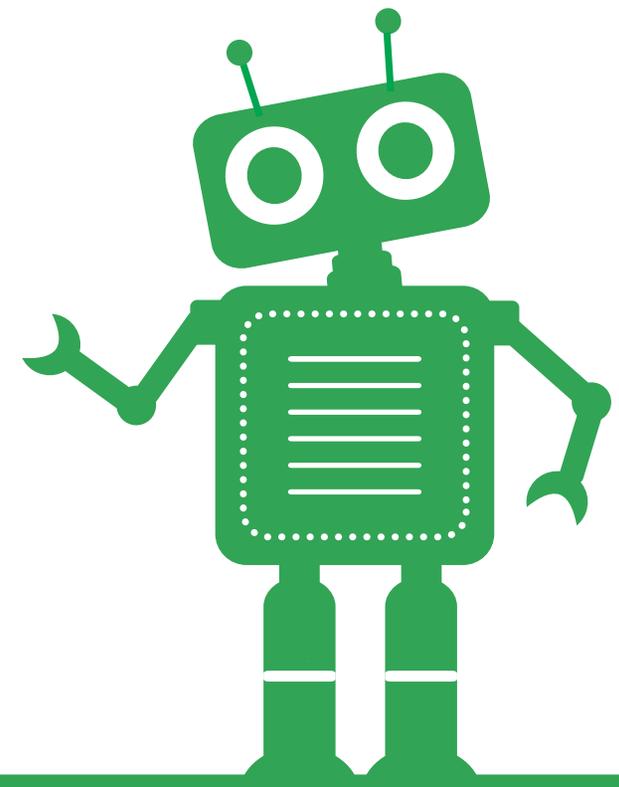Similar to Sketchfab, but without the option to buy or sell.

Leon the Librarian, designed using Tinkercad (book), Sculptris (Leon), & Blender (to combine the two models)

CONTACT THE DABBLE BOX MAKERSPACE
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DABBLE BOX
BASICS
3D Modeling & Printing

WHY MAKE A MODEL?

3D modeling is a skill that has many uses, including animated video, advertising, video games, architectural design, interior design, landscape planning, and much more. Most of the models made in the Dabble Box makerspace are intended for printing. A few of the more common uses for 3D prints are prototyping, miniature models (e.g. gaming miniatures), and practical objects like replacement parts or life hacks.

Prototyping

You might be interested in designing a new product but haven't had the opportunity to test it out or provide a working prototype. With 3D modeling and printing, you have the resources to create your own prototypes. Computer-Aided Design (CAD) software is usually the best option for these purposes.

Miniatures/Models

There are many reasons to create models or miniatures. You might need scale models for architecture, interior design, or landscaping. Maybe you need to create pieces for a board game you're designing. You could even be looking for the perfect mantle piece. CAD or sculpting software are both viable options depending on your modeling needs.

Part Replacement or Life Hacking

Anyone can relate to needing a part for something and not having it. Sometimes parts are no longer manufactured, too expensive, or difficult to obtain. Maybe you need a solution to a storage dilemma. Whatever the reason, you might be able to find or create a part using 3D modeling. The precision needed for making these parts usually requires CAD software.

FREE SOFTWARE

This list is organized from easiest to most complex. They may all be used for commercial purposes.

Tinkercad (CAD)

Tinkercad is a web-based application that requires a free account to use. Models are stored right on the website and are accessible from any computer with Internet access. Owned by 3D industry giant, Autodesk, Tinkercad provides users with an outstanding beginner-level experience.

Blender (Modeling & Sculpting)

Blender, the premier open-source 3D modeling software, is now becoming an industry standard. Recent updates funded by a large grant have made Blender more user friendly than previous versions. Blender is highly recommended for both modelers and sculptors who don't have thousands of dollars to invest in commercial software.

SketchUp (CAD)

SketchUp is easy-to-use software for beginners that provides a completely free version of their software with nearly full capability. It's a web-based application but requires an add-on to be installed within the browser. Paid subscription-based versions add more features such as augmented reality, virtual reality, more advanced toolsets, and a locally installed application.

SculptGL/Sculptfab (Sculpting)

SculptGL/Sculptfab is a web-based application that allows the user to mold a clay-like sphere into a model. It has fewer features than Blender, but has the added convenience of web accessibility.

Instant Meshes (Retopology)

When using the sculpting method in particular, models often become too complex for many applications to use efficiently. Retopology, or simplifying the mesh, is often necessary. Instant Meshes is a free tool that does this well.

INDUSTRY STANDARD SOFTWARE

These applications are considered industry standards. Most 3D modelers will find themselves gravitating toward these or similar applications as they move into more professional fields. If you ever have a chance to check these out, they are wonderful tools capable of the 3D modeling you've seen in movies, video games, and advertising.

3D Studio Max ($1545/yr)

3D Studio Max, a.k.a. 3DS Max, is an essential application for 3D modeling, texturing, and animation from industry giant, Autodesk. Some might argue a basic knowledge of 3DS is a requirement for any 3D modeling professional.

ZBrush ($895)

Pixologic's Zbrush is arguably the leading application for digital sculpting and painting. Models created with it are highly complex and will need other software like 3DS Max to prepare for uses like animation or game development.

Mudbox ($80/yr)

Mudbox, ZBrush's main competitor, is Autodesk's primary sculpting and painting software. As capable as its competitors. You'll need an application like Maya or 3DS Max to prepare these models for some uses like animation.

Maya ($1545/yr)

Maya is another Autodesk application that lies somewhere between Mudbox and 3DS Max. It has animation and sculpting capability but with less complexity in each than its counterparts.

Solidworks ($3995)

Solidworks is a popular CAD software primarily for industrial use. It's also the go-to software for academic CAD needs.