



Free 3-D program lets you visualize your dream projects

It's said that you have to dream it before you can do it. And if your dream is to build something, you have to draw it before you can build it.

Whether it's a building, a deck or a piece of furniture, you have to make a plan before you start swinging a hammer. Sketching your ideas — on paper or on screen — allows you to anticipate and solve problems, create lists of materials and visualize your finished project so the actual construction goes smoothly.

In the past, I've used graph paper or drawing programs to create two-dimensional plans



for projects. They're invaluable for construction, but the problem is that you can't see what it will look like in three dimensions and from various angles. There are a lot of computer programs available that will allow you to visualize your project in 3-D very effectively. The problem is that most of them are very expensive and have a significant learning curve.

Google to the rescue
SketchUp.com is a free, web-based program from Google that gives you some pretty high-level 3-D drawing and rendering tools. You can upgrade to SketchUp Pro for around \$700, but the free version should be adequate for any weekend handyman or serious hobbyist.

The user interface is fairly friendly, but there's still a bit of a learning curve. The SketchUp website has some very helpful tutorial videos, and there are thorough tool tips in the program.

I spent several hours over the course of the last two weeks designing my dream house with SketchUp. Often I would be frustrated when a situation arose that I didn't think the program could easily address. But just as often, I learned through exploring the program and tutorials that the program actually did have the tools and capabilities to do what I thought it couldn't. As with anything, the more time you spend with it, the easier and more productive it is.

You can create complex and precise structures. There are libraries of textures — such as stone, glass, metal, wood, vege-

tation and more — you can apply to surfaces. There's a companion site, **3Dwarehouse.sketchup.com**, that has models of furniture, appliances, plants and more that you can download and place in your SketchUp project. A geolocation feature lets you pin your structure to an actual location to replicate real-world sun and shadow effects.

SketchUp is a very good tool that will become more useful as you use it more.

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