

SimFonIA Animation Tools

for SketchUp (Windows only)

Animate - Export - Share



Free Evaluation Version
Available at
<http://www.simfonia.fr/SAT>

Simfonia 
software & services

List of content

1. A letter to the desk of editor
 - [A letter direct from the editor desk highlighting on October edition](#)
2. Cover Story
 - [Sketchup for Woodworking](#)
3. Interview
 - [Interview with Jonathan Pagaduan Ignas](#)
4. Article
 - [Clues for Sketchup](#)
 - [Carving and Molding](#)
 - [My Experience with Sketchup](#)
 - [Sketchup Styles for Performance](#)
 - [My Story with Sketchup](#)
5. Blog
 - [Construction Documents using SketchUp Pro & Layout: New e-book by Paul Lee](#)
 - [Shaderlight announces winners of Global Competition to find best rendered 3D Models](#)
6. News Room
 - [Google Sketchup for Building Professionals](#)
 - [Free SketchUp Screen Recorder](#)
 - [SoB generator SketchUp plugin](#)
 - [SimLab Composer 2013](#)
 - [Spread3D 1.2 has been released!](#)
 - [General SketchUp Resources](#)
 - [Create Google Sketchup files that can be printed on a 3D printer](#)
 - [Creating a plan of your SketchUp model in Layout](#)
 - [Sunglass Takes Its Browser-Based 3D Modeling Platform Out Of Beta, Keys In On Communication](#)
 - [Google SketchUp 8 Certification](#)
 - [Live SketchUp Classes & Learning Resources](#)
 - [Shaderlight heads to SketchUp 3D Basecamp 2012](#)
 - [Urban 3D modeling with Sketchup](#)

A Letter to the desk of the Editor

Hello friends!

After the successful publication of September issue, we are going to publish the next issue of sketchup ur space. In the previous issue the article "Terrain Modeling with sketchup" by Daniel Tal got huge appreciations. In the upcoming issue we also provide some exclusive articles written by some renowned sketchup professionals.

We always put our earnest endeavor to arrange the contents of the magazine in a best possible and befitting manner. Let me express my compliments to all the writers of our magazine for standing behind us with their lively support in a way making the magazine a grand success.

I am gratified to all our honorable columnist and guest writers who had given their valuable time out of their busy schedule to our magazine.

In the upcoming issue the readers will find some elite articles like clues for practical drawing useful for designing, projects or artistic work with sketchup presented by Evrim PEKASLAN, a recognized architect from Turkey. An article by Claudio Cosentino who uses Sketchup Pro 8 in creating different locations in Dracula 3D film, an article on how to create a fireplace with sketchup solid tools presented by Adriana Grandos, an independent writer and author of Google Sketchup for Interior Design and Space Planning. Another good article focusing on how to make construction documents using Sketchup Pro and layout provided by Paul Lee, a renowned architect.

Besides some sketchup users like Bharat Munsuri, a budding architect has shared his experience on how he utilized sketchup in his professional life.

The readers will also get wonderful tutorials shared by some reputed sketchup modelers and designers. The readers will come to know some late-breaking news and latest happenings on sketchup.

The present theme of the magazine is "how sketchup facilitates woodworking process". The sketchup ur space team has presented an informative cover story focusing different aspects of sketchup for wood workers.

Hope our readers will also like this issue. I request all the readers to provide their feedbacks and suggestions to improve the quality of our magazine.

With best wishes and warm regards.

"Logic will get you from A to Z; imagination will get you everywhere."



Best Wishes
Rajib Dey
Editor

Happy Reading!

Cover Story

Sketchup for woodworking

Sketchup is the most powerful tool that can be utilized for multipurpose application. The sketchup is now considered as a most trusted tool for planning, designing, problem solving, and decision making for woodworkers to accomplish any woodworking project to avoid problems & costly mistakes before getting to the shop. The woodworkers can get rid of wasting valuable materials and shop time. This results in increasing the quality of the time used and finished product.

With SketchUp, the amateur or professional woodworker will be able to generate scaled 3-D models of projects and exercise all the details that range from dimensions, joinery, design features etc. and create full-size drawings or templates.



The design phase is the most difficult part of a woodworking project to evidently communicate on how it will look in after being completed. But now with sketchup a woodworker can generate a fully rotatable, fully detailed 3D image after the preliminary design phase and present it to the client by attaching through email. In the design stage the woodworker can instantly create objects, copy and evaluate variations and view in 3 dimensions.

In building phase the woodworker can put in details in least possible time in the model for detailing all parts and making it ready for the shop containing information on the proper size and location of all the parts and all the joints.

From a sketchup model the shop drawings and material lists can be generated smoothly. SketchUp permits for diverse views applying its Pages function and dimensions are added easily. With professional

version of SketchUp, one will be able to apply LayOut for creating polished drawings.

A woodworker can also utilize sketchup for setting up the router or shaper cutters for the joints quickly and easily in production shops. With sketchup a woodworker can illustrate a solitary door and don't have to redraw it provided that the molding and panel profiles remain the intact. Build the door parts components, assembled door a component and revise unique copies by several sizes to fit according to his choice. The sketchup can easily detect the exact size of the parts.

From a sketchup model a woodworker can get a full-size patterns, exploded & orthogonal views of every single piece, precise cutlists and printed drawings.

By applying sketchup a woodworker will get the ability to produce various scenes with layers for dimensions in quickest possible time containing significant details by copying sections of the model and moving them into unfilled space. The woodworkers can also add various textures, material and color to every part of the model to facilitate the building process.

A woodworker can utilize sketchup to model joints, molding, doors and drawers for taking out information concerning every part in the project. They can also amend models & subassemblies and save multifaceted parts to be applied in other models.

The woodworker can render their sketchup model for presentation, development of cutlists and panel optimization, and printing dimensioned drawings along with details, sections and exploded views. They can also render turned drawer, knobs, table legs, chair stretchers, bowls and spindles.

The woodworkers can develop a entire piece of furniture with sketchup by shaping cabriole legs, back slats, stem-bent parts, scrolled aprons, tapered legs etc.

Printing to scale is the most crucial factor for woodworkers to apply with sketchup. Printing to scale in SketchUp is not so complicated. The woodworker can print at a scale of 1:1 or any other scale according to their choices. The following are the five important steps for printing to scale in sketchup:-

- Opt for Parallel Projection on the Camera menu. (Camera/Parallel Projection)
- Choose one of the Standard Views (Camera/Standard Views/.....)
- Fine-tune the window and model size to reduce the amount of white space in the region of the model. It is the most complicated
- Portion of the process.
- Put your scale in the Print Preview dialog box and uncheck both "Fit to page" and "Apply model extents". (File/Print Preview)
- Select print.

There is good plugin for sketchup known as SketchStruct Ruby Sketchup Plugin Ver1.02 which can be very useful for woodworking project.

SketchStruct Ruby Sketchup Plugin Ver1.02

It is a free structural analysis plugin for Sketchup. It is still in the development stage and expects to become a fully integrated structural analysis program in the near future. The current version is capable

of analyzing only pin-jointed trusses with point loads applied at joints. Future versions of SketchStruct will consist of stiff jointed frames with any loading conditions.

Wudword Board Maker

Wudword Board Maker plugin computerizes the formation of board components for designing woodworking projects in SketchUp. It combines the making of a 2D rectangle, the push to 3D representation of a board, and also creates a SketchUp component while at it - all in one step.

The plugin is compatible with Sketchup 7 and 8 on windows, mac and linux.

To install the plugin, download the attached .zip file and:

Extract the wwxboardmaker.zip to a temporary location on your hard drive.

Copy the extracted wudworx.rb and wudworx folder to your plugins location (\library\application support\Google SketchUp7\SketchUp\Plugins\ on a Mac, or C:\Program Files\Google\Google SketchUp 7\plugins\ on a PC)

Restart Sketchup

In Preferences->Extensions, Enable Wudworx if not already enabled

Design

[wwxboardmaker.zip](#)

WWX M&T plugin for Sketchup

WWX M&T plugin for Sketchup is well versed with version 7 & 8 on windows, mac, and linux) for automating Mortise and Tenon making in models.

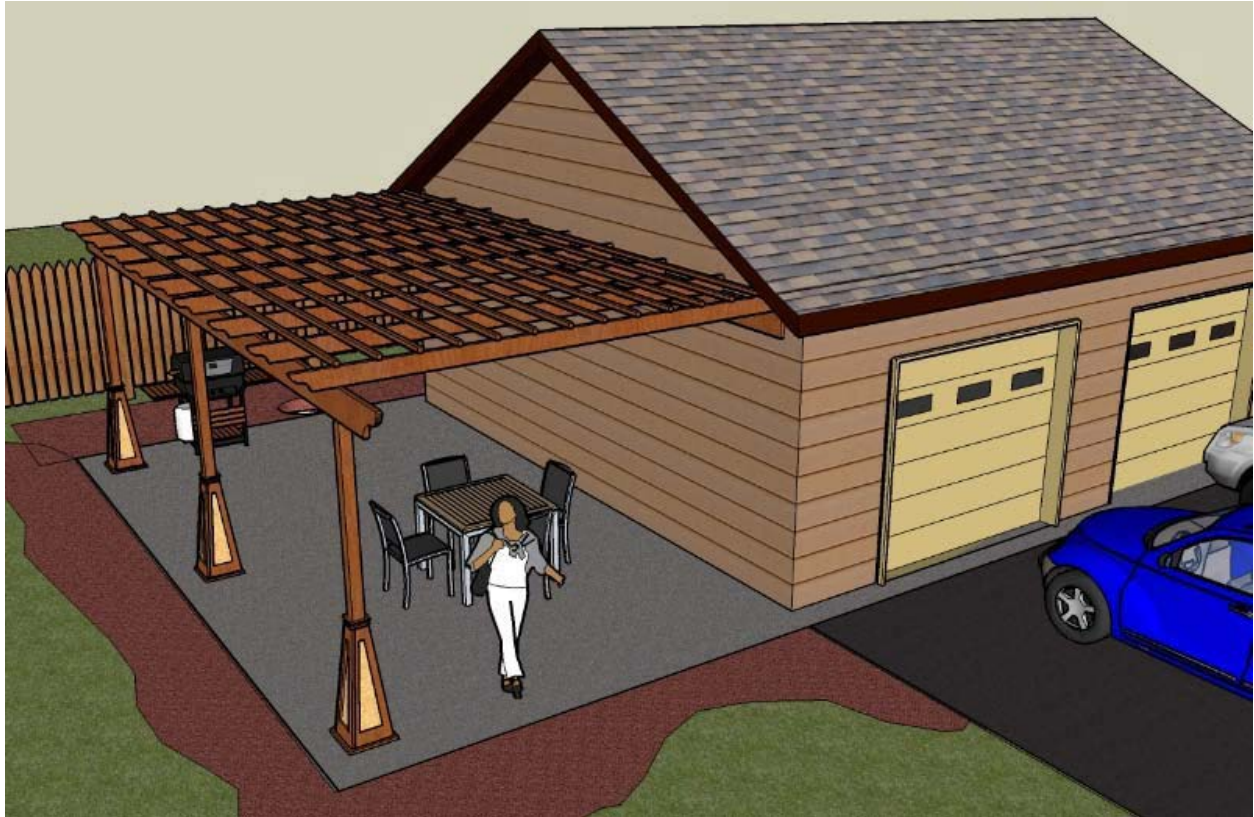
This plugin can easily and smoothly creates Mortise and Tenon joinery in your models by entirely automating their creation.

The M&T plugin contains 3 parameters which set the Tenon Depth, Tenon offset (Tenon shoulders), and an extra depth for the Mortise to form excess glue.

In order to know the application of the plugin, go through the [WWX M&T Tutorial page](#) which also focus on the installation process.

Present version 1.0 performs standard centered M&T, either hidden or through, but not offset, haunched, or elaborate joints - in those cases, the user can apply the plugin to set its base joint, and tweak them by hand to your tastes, which will be useful for saving time and efforts since the basic geometry is formed automatically on both parts.

In order to get access go through the Purchasing page.



WWX Dovetails plugin for Sketchup

WWX Dovetails plugin for Sketchup is compatible with the version 7 and 8 on windows, mac, and linux) for automating dovetail formation in models.

The plugin creates flat dovetail arrays, and also half blind and through dovetails for instant joinery. It applies a configurable set of parameters that keep their values between operations and also after SketchUp has been restarted.

Bob's innovative book "[Woodworker's Guide to SketchUp](#)", is the ideal way for anyone to learn this program.

Woodworker's Guide to Google SketchUp 7 is now in stock and ready to ship

Retail price \$39.95.

References:

Learn how to apply sketchup for woodworking

<http://readwatchdo.com/2012/04/use-sketchup-without-learning-sketchup/>

How to Use Basic SketchUp Tools for woodworking

<http://images.taunton.com/downloads/SketchUp-Guide-How-To-Use-Basic-Tools.pdf>

Interview

Interview with Jonathan Pagaduan Ignas

Jonathan Pagaduan Ignas, the most promising architectural designer cum visualizer. Jonathan completed his Architecture degree at Tarlac State University "TSU".



Hello Jonathan! Welcome to the space of Sketchup ur space. Provide a brief description of yourself.

Thank you SketchUp ur space for this interview. My friends call me Jonas. I am living in Victoria, Tarlac. I studied Bachelor of Science in Architecture at Tarlac State University, now i work as an Architectural designer and visualizer in Maestro de Obras. Visualization is my passion. I used sketchup in modeling, vray for sketchup for rendering and photoshop in post processing.



You work as an architectural designer cum visualizer in "Maes+ro de Obras", a design and build firm. Tell us something about your organization.

We see and regard every design problem as an OPPORTUNITY – an opportunity to create, serve, and take part in enriching a person's life. This is our philosophy. Our exposure and experiences in the fields of architecture and arts are reinforced by our sheer enthusiasm and dedication in these domains. Everyone in our team remains closely involved in turning each and every opportunity into both tangible and non-tangible creations. To achieve the highest standards in the end, we at Maestro de Obras Co. do take these opportunities seriously.

When you first discover SketchUp in your professional life?

I first discover Sketchup when i was college. That time the version i used was sketchup6.

Why SketchUp is so important for 3D visualization?

I agree, using Sketchup for 3d visualization makes the work easy. Sketchup is a user friendly software.

What is your most favorite project that was completed with SketchUp?

My favorite project was my very first project in school.that was in 3rd year college. That was my first time to used sketchup.

Explain the nature of projects you generally deal with

I used a lot Sketchup in every project. i can create 2d to 3d presentation, Plans, details etc.



Architectural visualization is your passion. How do you utilize SketchUp in architectural planning and designing, 3d modeling, 3d visualization etc.

Yes, using sketchup, i can create architectural plans with different styles, modeling is much easier than other software, and by the use of rendering engine like vray for sketchup, 3d visualization is an easy task.

You have expertise for exterior rendering with SketchUp. How do you utilize SketchUp for exterior rendering?

It takes a lot of studying and practice to achieve a good render, sketchup is a big help for me in modeling and visualization. a good model makes a nice render.

What kind of developments would you like to recommend for SketchUp in near future.

I would like to thank Sketchup for being a easy to use and user friendly software specially in my field of architectural 3d visualization. I think Sketchup gives all what i need. For me, developments of this software in the future are a bonus to all users.

Please provide your valuable suggestions for newbie designers on SketchUp.

Sketchup is user friendly software especially to newbie designers. Be patient in everything you do. Enjoy exploring new things. Learn to share, help your colleagues and follow your passion. It's not bad to copy some techniques form other visualizers for reference, but it's better to be original with your own style. Remember, visualization is an ocean of imagination. Don't stop learning, practice and practice,

Please provide your feedback on the SketchUp-ur-space magazine.

I would like to thank SketchUp-ur-space magazine for this once in a life opportunity. Continue with your good work guys.

Article

Clues for Sketchup

When you use SketchUp frequently for designs , projects or artistic works, it's possible for you to find out some clues about practical drawing.

Here are some clues that I discovered myself and I want to share them with you:

1. Drawing a circle positioned vertically to the face of the earth:

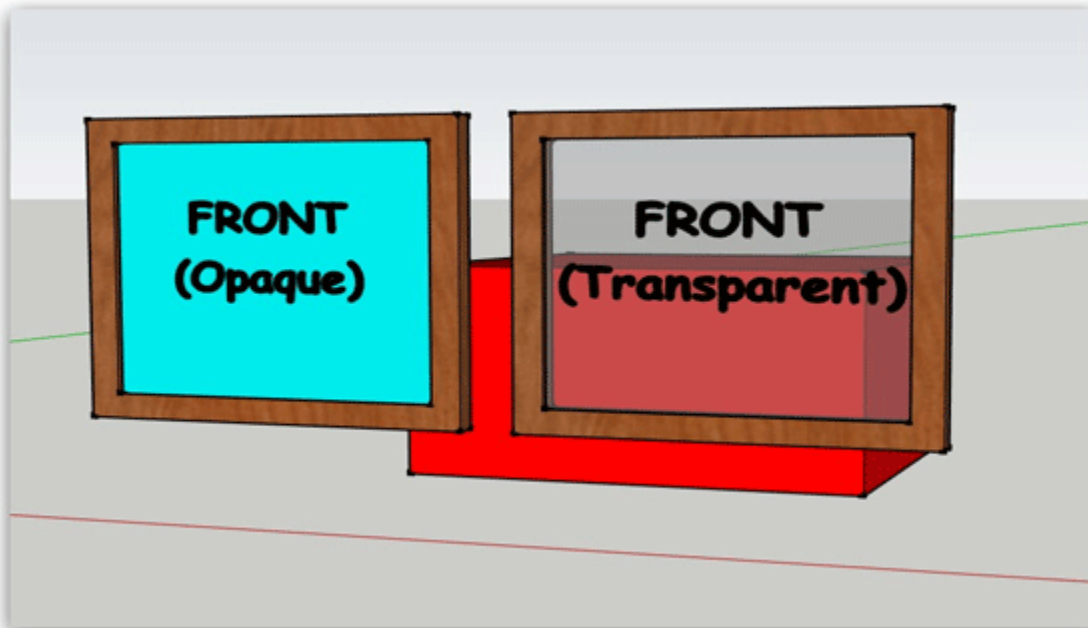
Choose Circle Tool, move the cursor through the vertical axis until it turns to green or red. When it turns to green or red, press and hold Shift key and lock the direction. Now you can draw your vertical circle.

2. Making some lines invisible when you don't want to see them:

Especially when you're working on a complex drawing, you may want make some lines dissappear. Choose Eraser tool, press and hold Shift key, click on the objects you want them to be dissappeared.

These lines won't be dissappeared forever, when you want them back:

- From the top menu, choose "Edit" and "Unhide".
- Or, from the top menu choose "View" and "Hidden Geometry". With this command, you can see the invisible lines as hidden (-----).



3. Transferring and Autocad® drawing to SketchUp:

When you're on Autocad® screen, select the objects which you want to export to SketchUp and move them to the 0,0,0 coordinate. If you do this, your drawing will be transferred directly to the center of the coordinates on Sketchup scene and it'll be easy for you to find them.

Make your Autocad® drawing Wblock when you're in Autocad® scene. From the dialog box which appears on the screen, choose "insert units" and change "unitless" to the unit you want. When you're on SketchUp screen, from "File", choose "import".

4. Correcting deformed perspective view (Field of View):

Sometimes when you're drawing and zooming, Perspective view can be deformed and your drawing seems unrealistic. When this happens click on the Zoom (resim key) button and on the right corner of the screen "Field of View" will appear. Write 35 (degrees) and your Field of View will be correct again.

5. About overlapped faces:

Overlapped faces can cause trouble especially when you're using a render program. An example for overlapped faces:

6. About transparent materials:

When we work with transparent objects we should be careful about front and back faces. If we directly assign a transparent material to an object, it becomes hard to understand which face of the object is front and which is back.

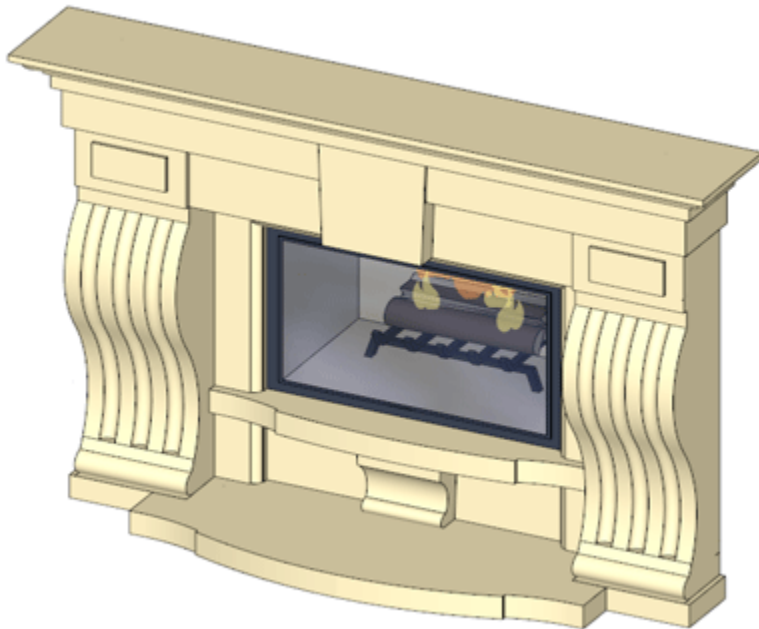
To prevent that kind of mess up, we can assign an opaque (non-transparent) material to object and after we're sure about the faces' positions are right, we can assign the transparent material:

Carving and Molding

When we have to refer to elements that enrich our interior spaces we cannot forget of moldings and carving. There are many plugins that can help you to define a geometry to use in this kind of details. Today I will show a simple tutorial by creating a fireplace.

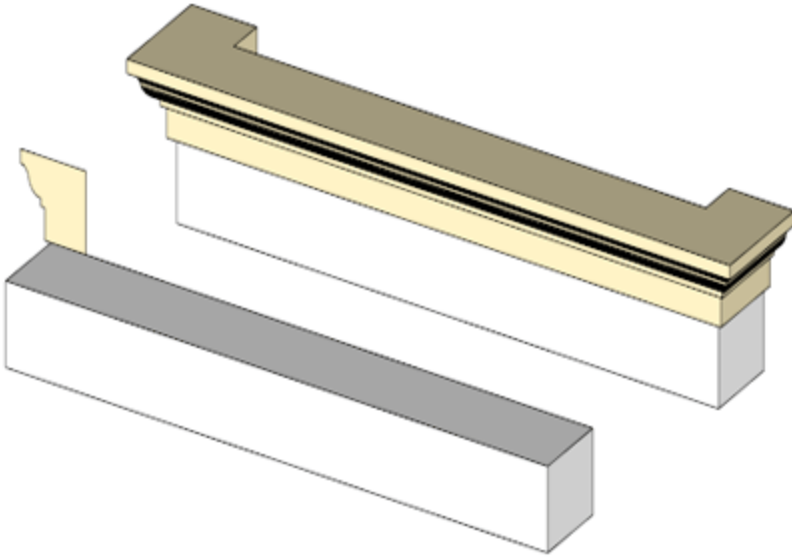
I know that not many SketchUp users take advantage of the Solid tools, but believe me, it's amazing what you can achieve with them.

This is the final model of the fireplace. Note the carved flutes on both sides.



This is the way I did it:

- I defined a flat face and a path.
- I used Weld plugin to convert the disconnected edges of my curve into one entity. In this way I don't see the edges on the curved surface.
- Next, I used the Extrusion Tools by TIG to create the flute.
- I took the profile of the jamb and with the Push/Pull tool I completed the geometry. I converted it into a group to use it in a later step with the Solid tools.
- I placed three flutes on top of the jamb.
- Check that you are in presence of volumes through the Entity info window, otherwise the Solid Tools can't be used.
- Using the Subtract option, I took away one by one the flutes from the jamb to get this result
- I used the Follow Me tool to complete the mantle and the frame



- Finally, I brought together all my groups to complete the fireplace.

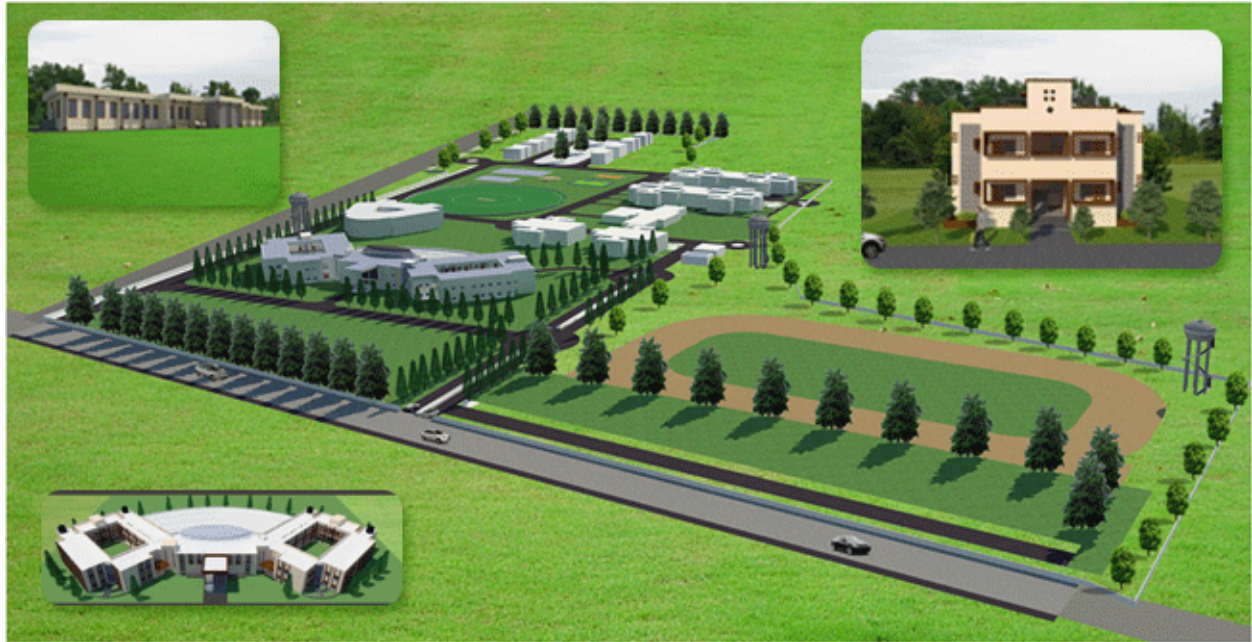
My Experience with Sketchup

Hi! Guys , This is BHARATH MUSUNURI from INDIA, I am studying ARCHITECTURE, I like to share my EXPERIENCE WITH SKETCHUP, SKETCHUP is one of the most user friendly 3D modeling program, as a student, as a freelancer sketchup served me a lot, INTERIORS, LANDSCAPES, EXTERIORS, FURNITURE MODELLING.



In architecture TIME matters everything, how creative we are how we present our product to the client is very Important, Sketchup serves this for the Professionals, user-friendly interface makes even the newbie's to learn 3D Visualization simple, Large projects , landscapes can also handled by SU, plugins I use personally are Vray , Lumen 3D (for Landscapes, walkthroughs), Vray is a great rendering engine , can handle large landscape sites, interiors, exteriors, we can compare SU vray render Quality With 3Dsmax rendering quality. Sketchup vray artists Group, Sketchup Texture group, we the newbie's and masters work together we share our renders.

We share our comments and we share our tutorials as we are all over the world the admin madam [Rosanna Mataloni](#) and Sir [Nomer Adona](#) , has put up a very good practice schedule every month Challenges , through these challenges Improving architecturally as well as communication , visually , technically.



Plugins for SU are the blessed weapons for a 3D visualize, to minimize the time, Advanced camera tools have enough Capability of real time camera perspective settings, As we go with a professional camera, updated sand box tools are so, Useful in contour making Building maker and style builder are the additional gifts, all the presentations are Quickies and stylish.

Sketchup Styles for Performance

Styles are what make your Sketchup model visually pleasing. When you really think about it, your model consists entirely of two things: Edges and faces. That's it. It's the style that makes your model have color, and makes your edges look hand drawn. And though styles can really add some spice to your model, they can also slow down the processing speed of your computer. When you are in the process of creating your model, you want your model to be as light weight as possible so the computer doesn't slow you down. A really easy way to increase the processing power of your computer is to choose a basic style while modeling. Once your model is complete, then you can play around with fancy styles to present your completed model.

What are Styles?

There are many different properties to a style; All of which you can edit. You can choose from a number of styles that have preset properties, or you can define your own and save it as a new style. Styles do not affect the geometry of your model, they only affect how the geometry is visualized. Here are a list of properties that can be saved in a style. Some of these can be accessed in different menus and you may not have even considered them to be part of a style.

1. **Edges** – Profiles, Depth Cue, Extension, Endpoints, Jitter, Color
2. **Faces** – Default front and back color, Wireframe, Hidden Line, Shaded, Shaded with textures, Monochrome, transparency
3. **Background** – Color, Sky, Ground, transparency
4. **Watermark** – Display
5. **Modeling** – display colors, visible geometry, match photo options

When you save a new style, all of these properties get saved. As you can imagine, the more things you have visible, the more processing power will be required for Sketchup to render your model. If you use a “fast” style while modeling, and then switch to a “pretty” style when you are finished, you can increase the speed of your modeling process tremendously.

How to Edit Styles

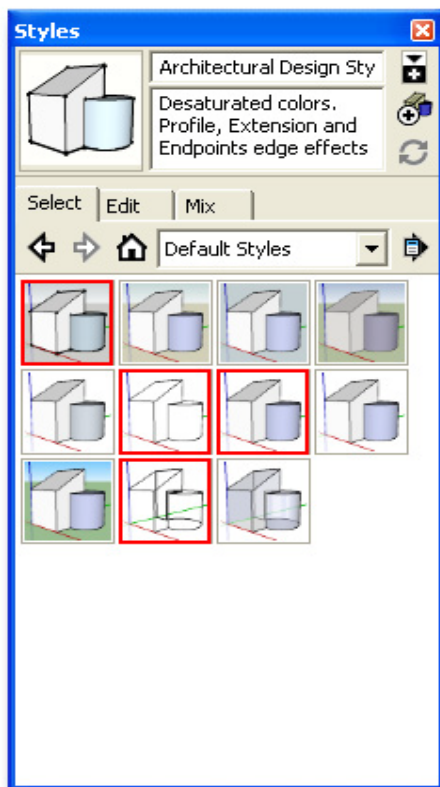
The best way to get a complete picture of your styles is to open the Style Window. Go to **Window → Styles** to active it. The first tab “Select” allows you to pick from a collection of preset style configurations. When I first started using Sketchup, I never knew how many there were, **until I clicked the drop down menu and discovered a whole bunch of additional styles I never knew I had.** Once you select a preset style, you can change each aspect of the style by going to the edit tab. Under the edit tab you can change all the properties I listed above, and if you like, you can save it as a custom style.

Is processing speed the only factor?

So how do you define the best style? What are the criteria? Well, in this case we are looking for the fastest style to use while modeling. But that is not as straight forward as it sounds. There are other things to consider than just the processing speed of your computer. While it's true that the faster your computer can load and render your model, the faster you can orbit around and draw. But there are some other features that can help a person model faster besides just having a fast computer.

Does increasing the computer's ability to process the model really matter that much? Depending on the size of your model, most computers today can handle Sketchup with no problem whatsoever. As the size of your model increases, the more you'll start to notice flicker on your screen as you orbit. What happens is **Sketchup will automatically lower the frame rate** at which it displays a snapshot of your model as you're orbiting around when your model is very large or if you're using a complex style. As a result, you see a choppy transition during orbiting and scene animations. By automatically lowering the framerate, Sketchup tries to orbit from point A to point B just as fast as in a smaller model, but you will start to experience eye fatigue. As the model gets bigger, you will notice the model starts to lag even more as you try to move around.

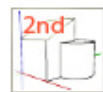
With really fancy styles, you'll notice that as you orbit, Sketchup won't even try to keep up with you. It will just switch to wire-frame mode until you've completed orbiting. Then it will load the style. I bet you've seen this many times before but never really thought about why it's doing that?



Sketchup's Fastest Styles



1st Wireframe - This is the fastest style you can use. It shows no colors or faces, just the edges as thin lines. Though it is fast, it is impractical to use this while modeling because you can't select faces.



2nd HiddenLine - This is the second fastest Style to use while modeling. It has very thin edge profiles, and white faces. Good general modeling style.



3rd Shaded - This is the best balance between speed and visual assistance. Fast edges, and basic color tones are displayed on faces.



4th Architectural Design Style - The most commonly used style. It has some added details to the edges, and includes extensions and colored background.

Visual cues help you model faster

So there is a direct effect on speed when you use complicated styles. The other important factor when considering what the "fastest" style to use is is the amount of visual cues it provides you, and how they assist your eye in identifying features in your model.

The way edges are displayed will help you determine if they are close or far away, if they are intersecting with other lines, and if they are on a corner or if they're in the middle of a face. Although you are not consciously thinking about these things, all these visual cues help you identify what you are looking at.

Faces can also be hidden, white, shaded, or shaded with textures. Sometimes you will find it helpful to use colors to help you identify different components within your model. This helps you model faster by being able to identify things faster. But at the same time, it takes slightly longer for the computer to process the model.

Defining the “Fastest” style

As you can see, in order to define the fastest style in Sketchup, you need to balance the benefits of a fast render speed, with the benefits of having visual cues to help the person model faster.

Starting with the fastest style, The **Wire frame** style is the racecar. But it's an ugly racecar. It quite literally only shows the edges in your model. There are no faces, colors, or backgrounds to process, which makes this style the fastest. However, it is very impractical because you can't select any faces because they don't show any, and your model tends to just look like a jumbled mess of lines. You lose the 3D look to your model and it becomes hard to identify what you're looking at.

The next fastest Style is the **Hidden line** style. It is a step up from Wireframe in that it shows the faces, but they are all white. You can select the faces which makes this the first fast style that is somewhat practical to use while modeling. I use this sometimes when I have a lot of colors in my model and I'm looking for a different perspective. This is also the style I use most of the time when preparing my models for [Layout](#).

The best all-around Style is **Shaded**. It provides basic edges and colored faces that can help you identify different parts of your model without bogging down your computer with extra details. This is the Style I use most of the time. This last style is one of my other favorites in Sketchup, and it happens to be the default style if you select Architectural Design Template when opening Sketchup. The **Architectural Design Style** has a few details like extensions and thicker edges around the perimeter of a shape that gives it that classic Sketchup look.

Which styles do you use?

Do you have problems with rendering when you use certain styles? Which ones are you favorite to use while modeling? Leave a comment below and let me know!

My Story with Sketchup

I use Sketchup pro for about 4 years, I work as production designer in film and television, I found this wonderful too fast and functional, the thing I like most is that you can draw directly in 3D. In my work requires a certain speed design, and an immediate view in 3d with Sketchup is perfect to illustrate my idea.



The program can be customized as you wish. My method of working is very simple, after reading the description of the scenes in the script, I run a small comp fast on paper, then step directly to the design with Sketchup, and I really like the interaction with Photoshop to manipulate textures in real time.

Here are some examples.... the limit that sketchup has had to manage the textures on curved surfaces, was brilliantly solved with a plugin by

Frido. <http://forums.sketchucation.com/viewtopic.php?f=323&t=44552#p397448> to render use Renderin and Artlantis studio are two rendering engines very fast and give a fair result, Renderin is very easy to use, great for beginners.



It is a plugin for Sketchup, and is completely integrated with the program. Its limit is very heavy with the models above 80 megabit is possibility a program crash. Artantis is a stand-alone renderer import the template directly from Sketchup in its interface, and runs very heavy models.

SketchUp for Cinema. like many of my colleagues production designers from around the world. we use successfully SketchUp Pro Google, for illustration, design and layout, it has become a program of great artistic expression, for all of us, and I personally do not think I'll be able to do without more information about my latest work Dracula 3d.

I have designed over 13 different locations to film all this with sketchup pro 8, which then were built in the theater. One of these is the barracks, where the vampire Dracula commits a massacre. Since this is a horror movie.

I had to create environments gloomy. I manipulated the textures with Photoshop, showing dirt and moisture, with the plaster decadent.



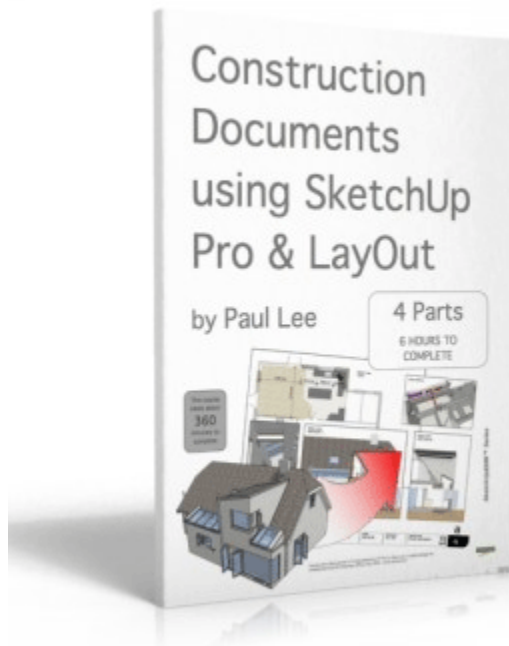
In 1800 the lighting was still obtained with oil lamps, this has helped me to give a mysterious look to the barracks. The movie is coming out in Italy November 22, 2012, will be distributed throughout the world.

Blog

Construction Documents using SketchUp Pro & LayOut: New e-book by Paul Lee

This new book has been 11+ years in the making since Paul first designed and delivered a course called "RealWorldCAD" which was designed to show how to use CAD professionally, using standards for layers, linotypes, line weights, and nomenclature. Through this experience I began to form ideas about how to best design course materials and delivery methods.

When I got a tip-off about SketchUp through an architect friend in 2005, and started to find out to my utter amazement how good this free software is, I inevitably became obsessed with this new toy/business tool. Having seen how fast SketchUp was as a 3D modeling tool, I began to ask "How can I use the model to extract 2D information?" All the tools were there (as I eventually discovered) in SketchUp but seemingly no-one had written down a methodology for pulling it all together using Layers, Scenes, Styles and effective Group organization. In addition, the hidden layer plugin and the use of the Outliner window dramatically increased the effectiveness of my approach to "SketchUp 2D".



The new book entitled "Construction Documents using SketchUp Pro & LayOut" is a synthesis of years of shaping and re-shaping through practice of the technique for forming high quality construction documents. The book goes into thorough detail with a step-by-step approach to achieving the final result. I am delighted with the number of sales so far which have been beyond expectations.

Image generated from a model that forms part of the "Construction Documents using SketchUp Pro & LayOut" downloads.

The book, (which contains a link to download a set of models and layout files), starts off with showing how a table model can be cut and displayed in plan/ section/ elevation and then displayed & scaled in LayOut with dimensions and other graphics required to form proper documentation. The great thing about doing this in SketchUp is that you can display a 3D image beside the 2D information without breaking a sweat. There is no room for confusion in the mind of the client/ contractor/ etc.

I hope that people will find this manual useful for exploiting the power of SketchUp Pro. I feel that such a manual is needed to persuade people to invest in Pro, but I would say that wouldn't?

The above tutorial is based on techniques found in Paul Lee's new book "[Construction Documents using SketchUpPro & LayOut](#)" available here from [SketchUcation](#)

Shaderlight announces winners of Global Competition to find best rendered 3D Models

In July we gave you the chance to show us what you can do with Shaderlight with the launch of our latest render contest. We had hundreds of entries from all over the world so thanks to everyone who took part.

After lots of head scratching and discussion, the judges who included Mike Lucey from [SketchUcation](#) and Lynette Clee from [3d Artist](#), have chosen their top three images which we proudly announced today.

First prize went to David Harris for this fantastic render.



Second prize was awarded to Carrie Barker, architect at Overcash Demmitt Architects in North Carolina.

Finally, third prize went to Duane Kemp of Kemp Productions for this image.



I think you'll agree – all worthy winners however as we had so many great renders, we wanted to share some of the other entries short-listed by the judges.







All these images and more will appear in our gallery over the next few days so you can enjoy them every time you visit the [Shaderlight website](http://Shaderlight.com). Don't forget, if you want to share your work with us, you don't have to wait for the next render contest, just email me – kate@artvps.com and we can help showcase your latest project.

News

Google Sketchup for Building Professionals

[Register for This Seminar](#)

[Register for This Seminar as the Alternate Coordinator](#)

Five Reasons To Attend This Seminar:

- You'll examine Sketchup as an architectural design tool.
- You'll learn about using Sketchup's modeling tools.
- You'll learn to create site plans in Sketchup.
- You'll explore layers, scenes, components, and graphical file import/export.
- You'll learn to create and extract useful information from a digital model for representation or construction purposes.

Credit Information

This seminar is open to the public and offers up to 6.5 continuing education hours to architects and 6.5 PDHs to professional engineers in most states, including Wisconsin.

This seminar is approved by the American Institute of Architects for 6.5 Learning Units. The AIA has not awarded the HSW designation to these Learning Units. Wisconsin architects can determine whether to claim these hours as HSW, but HalfMoon Education recommends following the AIA non-HSW determination.

HalfMoon Education is an approved continuing education sponsor for architects in Florida and North Carolina and is deemed an approved sponsor in New York. HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Louisiana, New York, North Carolina, and North Dakota.

The Wisconsin Department of Safety and Professional Licensing, Division of Professional Credentialing has approved this seminar for 2.0 Dwelling Contractor Qualifier Certification continuing education hours.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire program. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Tuition

\$259.00 for one attendee, or \$239.00 for 3 or more from the same company or firm registering at the same time.

Each registration includes one copy of a manual prepared by the seminar speakers.

Alternate Coordinator Registration Available: This seminar has an alternate coordinator position available which comes with a \$100 registration discount.



[Register for This Seminar as the Alternate Coordinator](#)

November 15, 2012

8:30 am - 4:30 pm

Registration begins 30 minutes prior to seminar.

Location Information:

This event will be held at the
Doubletree by Hilton Downtown
611 West Wisconsin Avenue
Milwaukee, Wisconsin 53203

Please call Doubletree by Hilton Downtown at (414) 273-2950 or HalfMoon LLC at (715) 835-5900 for detailed directions.

All brochures are in PDF format. If you do not have a PDF reader installed, please download, Adobe Acrobat for Macintosh or Windows. If you are not able to attend you may also purchase materials from this program. Please see the seminar brochure for details.

[Register for This Seminar](#)

[Register for This Seminar as the Alternate Coordinator](#)

[Show Me Information on Purchasing a Recording of this Program](#)

Free SketchUp Screen Recorder

SketchUp is an awesome program for creating 3D models and buildings. Whether you want to create a speed art video, or share some tips in a tutorial, [screen recording](#) SketchUp has never been as easy as it is now – thanks to Ezvid.

To get started, go to www.ezvid.com to download and install Ezvid for free. Once installed, open Ezvid and click the “Capture Screen” button. After the countdown, Ezvid will be recording your screen. You can now launch SketchUp and start creating. When you’re done, just click the stop button.

Ezvid will automatically render your screen recording into the timeline where you can edit your video. If you’re making a speed art video, right click your video in the timeline, hover over speed, and choose the speed you want your video to play in. When you’re done, you can easily upload your video to YouTube with the click of a button.

It’s that easy! To start making your own SketchUp videos, visit www.ezvid.com to download Ezvid for free today.

SoB generator SketchUp plugin

Overview

This is a simple Sick of Beige case 3D Model generating plugin for SketchUp. It allows you to generate a 3D model with just a few clicks

Installing

To install the plugin simply [download it from our SVN](#), and place it inside the Plugins folder found in SketchUp's program folder.

How To

Once installed you should have an option to select Create a SOB case in the Plugins menu option.

Once activated a small menu will pop asking you to input the dimensions of the case in question. Select the PCB width and length from one of our standard sized PCBs, and enter the circuit height of your project.

The last selection to be made is the Side Panel Style. There are three choices.

None

Stacked

Interlocking

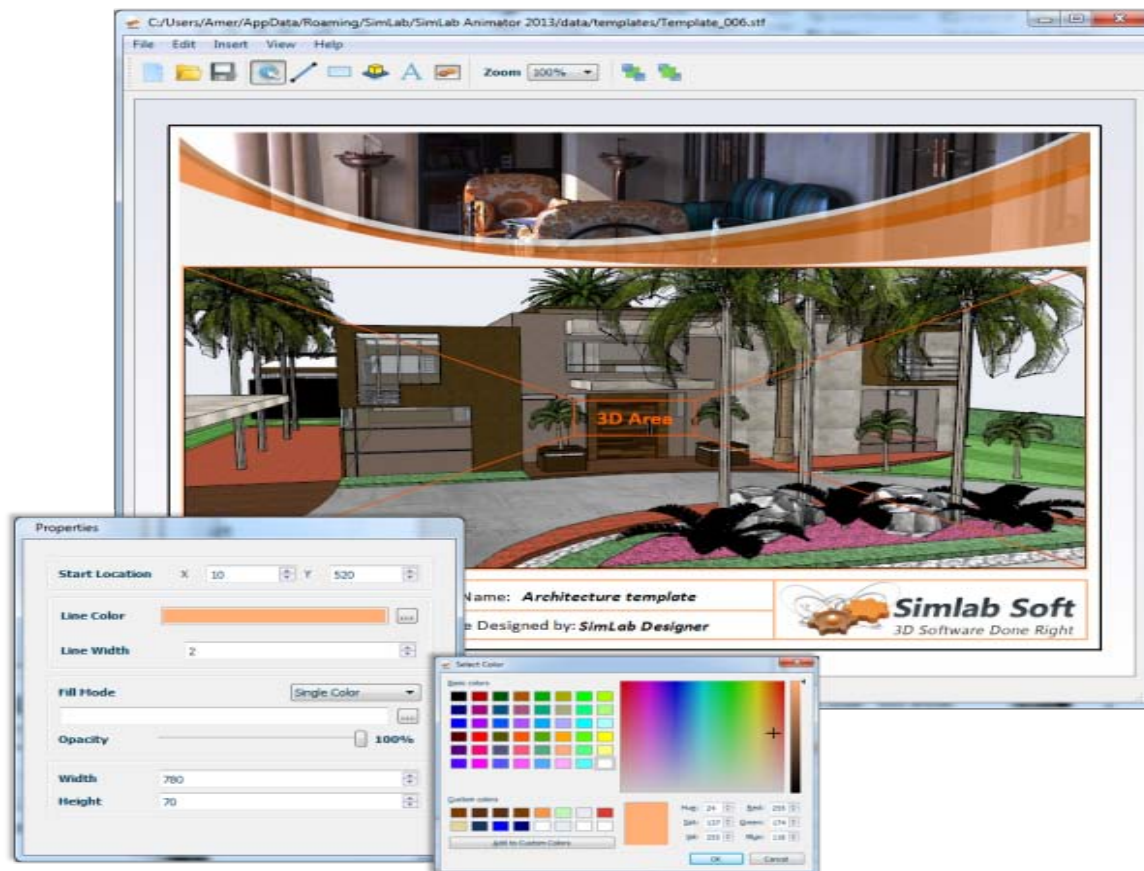
Taking it further

SimLab Composer 2013

SimLab Soft has two products relevant to SketchUp users: [SimLab 3D PDF Exporter for SketchUp](#) and [SimLab Composer](#) (which also includes this feature). SimLab 3D PDF Exporter does what it says: exports a PDF file viewable in 3D - which you can also insert into an html page. SimLab Composer - beside being distributed in three, different "flavors": 3D PDF edition, Rendering edition and Animation edition (see the comparison [here](#)) - gives users different options to share 3D Scenes;

3D PDF: 3D scenes created in SimLab Composer, can be exported as 3D PDF files. A 3D PDF file is a PDF file (that can be opened using a free version of Acrobat reader), which includes 3D Data. The recipient of the file will be able to view, rotate, and interact with the 3D scene. 3D PDF was designed to be very easy to use for none technical users.

3D HTML (WebGL): SimLab Composer supports sharing models as HTML files that can be opened using any of the leading web browsers including Google Chrome, Fire Fox, Internet explorer and Safari by utilizing the web browser's native WebGL capabilities.



Exporting to iPad: 3D scenes created in SimLab Composer, can be exported to iPad as SimLab archive files (*.zim). SimLab Archive files can be opened using SimLab CAD Viewer.

Spread3D 1.2 has been released!

[Spread3D 1.2](#) has been released! Many new features are available. Spread3D Plugin For SketchUp: store objects positions and orientations in SketchUp and replay the animation in Spread3D. Free plugin for SketchUp

Spread3D Player: Open and review Spread3D Pro experience offline Free download!

Spread3D Free: Convert your SketchUp models to interactive web pages (non-commercial use only) Free download!



Spread3D Lite: Convert your SketchUp models to interactive 3D web pages and customize them. Get it for 35€

Spread3D Pro: the perfect presentation companion for SketchUp. Create interactive 3D experiences that you can review offline, online and embed in a PowerPoint presentation. Full features for 199€



General SketchUp Resources

Note that with the acquisition of SketchUp by Trimble, many of these below links may soon be deprecated and changed. We will strive to keep everything on this page updated as much as possible.

[SketchUp Home](#) - the starting page for "all SketchUp"

[Download SketchUp](#) - the official download page for SketchUp - both Pro and Free versions. Note that there are some places all over the internet that provide download links too but always be careful where to download. Also, here you can always access the latest builds with the most up-to-date bug fixes and new features. This is [another place](#) where you can access all current, publicly and officially available versions (e.g. language variations) of SketchUp.

[Older SketchUp \(Pro\) versions](#) - if you are a Pro user, you can download older (and still supported) versions here.

[Release notes](#) - for all currently supported versions of SketchUp, LayOut and Style Builder.

[SketchUp Help Center](#) - general resources for all officials, online help articles, links to the official [SketchUp Help Forums](#) (Google Groups) and others. The Help Articles were last released as [downloadable PDF](#) versions for SketchUp 7 and LayOut 2. Much of what's written there is still applicable to the current versions but you will need to make sure to compare to your current version's working.

[Contact SketchUp Pro Sales](#) - if you are a Pro customer, you can contact SketchUp sales here. If you have licensing problems, you can try the [License Trouble Shooter](#) or retrieve your license information here.

[SketchUp Technical Support](#) - if you are a Pro user, you can try to send your technical problems to the SketchUp Team.

[SketchUp Ruby API](#) - if you are interested on developing plugins for SketchUp. More about plugin and extension development can be read on our [Developers Forum](#).

[SketchUp Sage site](#) - a fine collection of helpful resources collected over the years of forum support by "SketchUp Sage" Catamountain. A side project of these resources is the ["S'more stuff" site](#).

[SketchUpdate](#) - the official blog for SketchUp hosted on Blogspot. You can subscribe to their monthly newsletter (containing the excerpts of the most notable posts of the month) [here](#).

Create Google Sketchup files that can be printed on a 3D printer

Before I ever had access to, or knew what a 3D printer was I used sketchup for various reasons to build things, and while I know there are better programs to use to build 3D designs its simplicity mixed with my experience covered all of my possible 3D needs. Once I found out about 3D printers, though, there were a few files that I thought would be really need to convert into real physical objects. The problem was that sketchup did not provide a solution to convert my files into an accessible format for 3D printers. After some searching on the web, I found some software that I would like to share with you so that anyone with knowledge of Google sketchup can create their own 3D prints.

The only software aside from Google sketchup is a program called 'topescope which lets you view your completed files before you send them off and spend money on the prints.

Supported formats are stl, dxf gts, nff, q3o, obj, off, ply, tri, uo

<http://www.rippion.com/topeScope/>

I have also attached the ruby files needed for sketch (see next step). There are two of them and I will explain where they need to go

Step 1: Add files to sketchup



There are 2 ruby files that need to go inside the sketchup applications folder. Afterward restart the program. You can access the files from my Google docs with this link since I can't seem to upload ruby files onto the Instructable website.

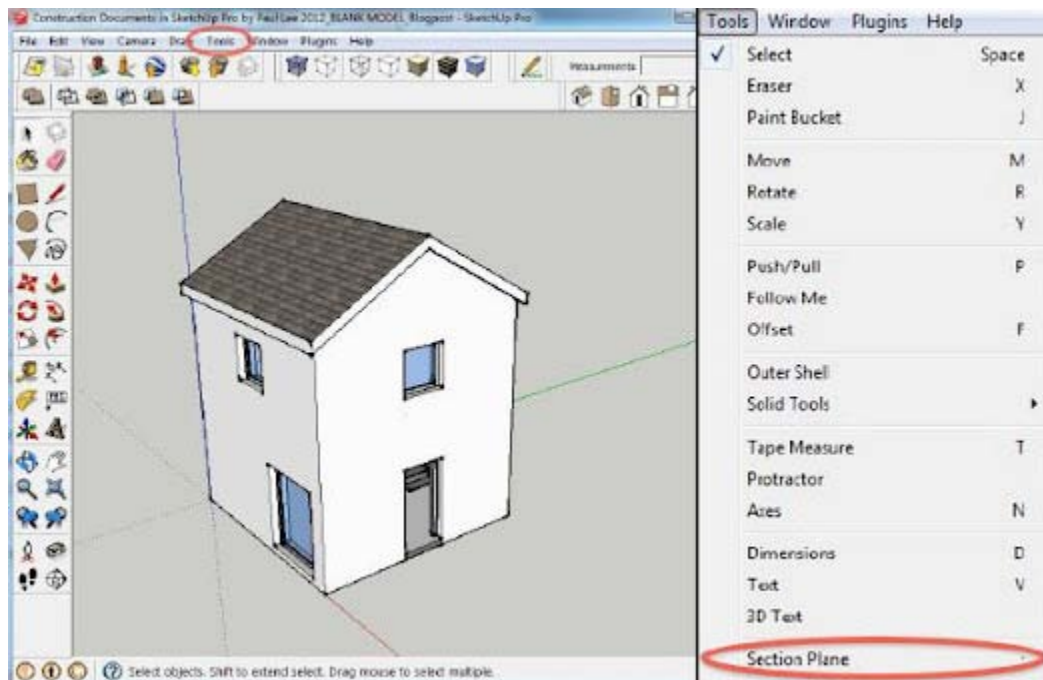
<https://docs.google.com/folder/d/0BywxwJtAtHM9SDFJTVQzNWNZekE/edit>

The files should go right inside the Google SketchUp (your version) folder.

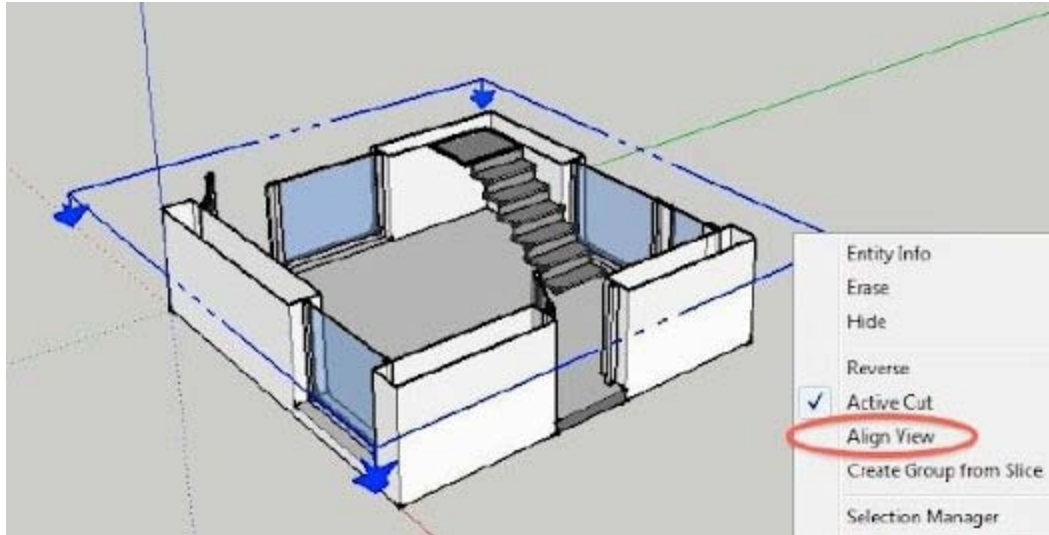
There are 3 files in the photo but you only need 2. One of them is another unrelated ruby file.

Creating a plan of your SketchUp model in LayOut

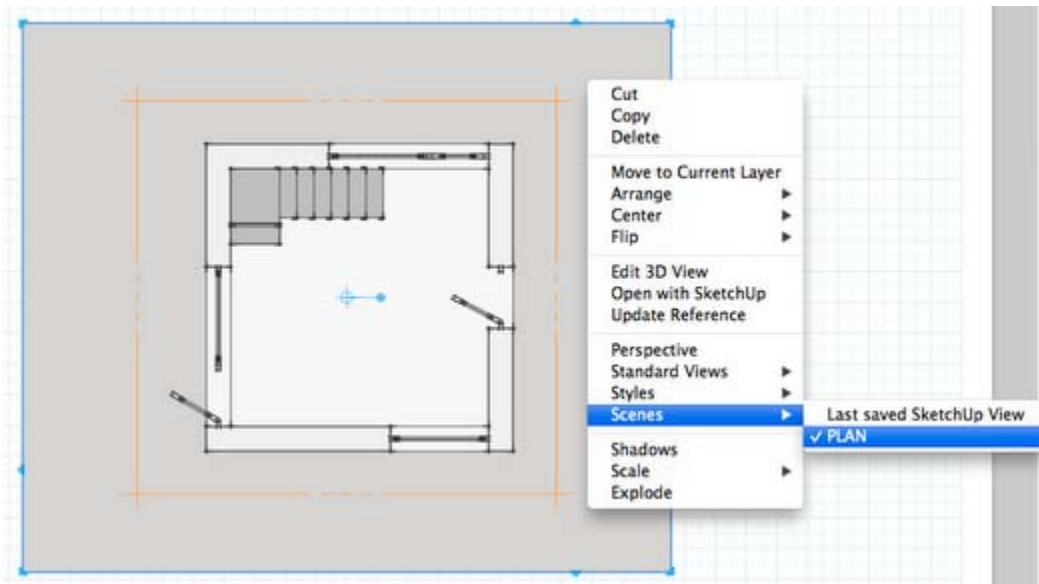
Creating a plan in LayOut is a snap. In this tutorial we will take a pre-formed model, apply a Section Cut and create a Plan Scene for display in LayOut. Below is a view of a house construction model you can download from here. Once you've opened this model (or one of your own), select the Section Plane tool from the Tools menu.



Use this tool to align the desired sectioned view of the model. (Remember: Hold down the shift key to maintain alignment while positioning your section cut.)



Under the Camera Menu, Set the view to Parallel Projection; notice that you've now provided straight-on view for your plan. Next, under Window, select the Scenes console. (Tip: you can hide the Section Plane itself in your LayOut document by opening the Styles window in SketchUp, and editing the default style of your scene to hide the section plane).

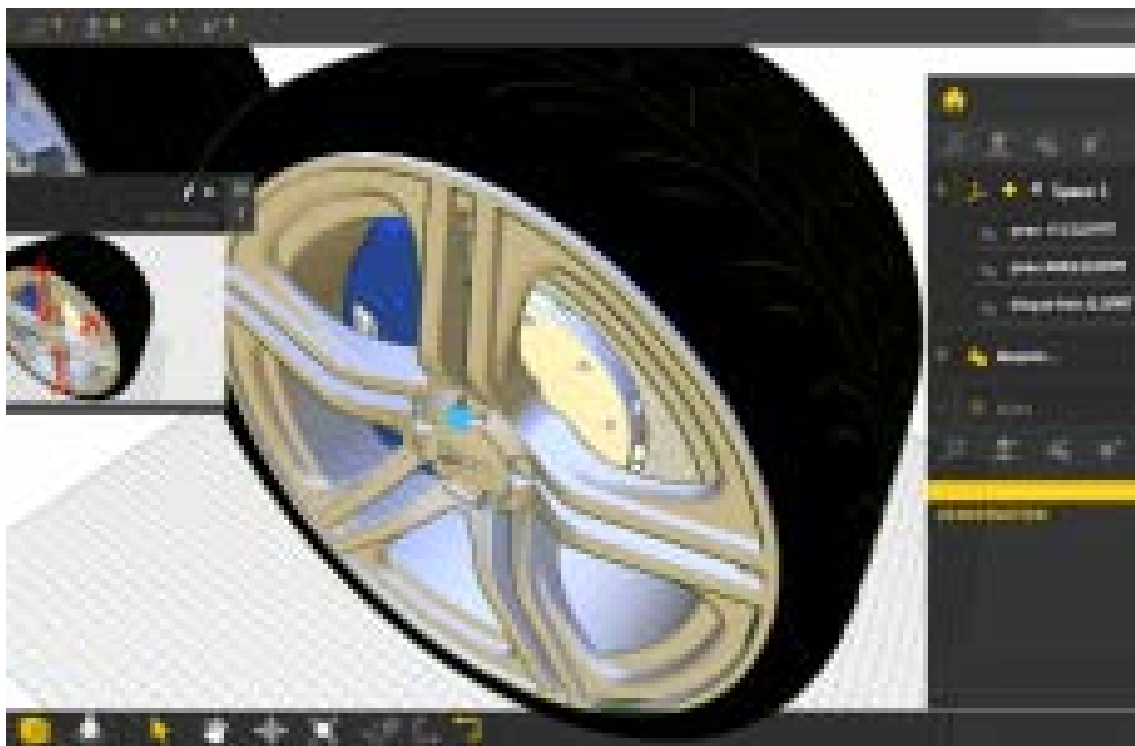


Now click on the “+” button and create a scene called “PLAN”. Open LayOut and access your SketchUp model by selecting File > Insert. From here, simply right-click on the SketchUp window and select Scenes: “PLAN”. Then right-click and go to Scale = 1mm: 50mm. Your scaled plan is now finished in Layout, and you're all set to start dimensioning and annotating the important details.

Sunglass Takes Its Browser-Based 3D Modeling Platform Out Of Beta, Keys In On Communication

[Sunglass](#), a company that made its private beta [debut back at TechCrunch Disrupt New York](#), is announcing its official, wide public launch today. The startup provides a web-based tool for sharing and collaborating on 3D models created in a number of CAD programs, including SolidWorks, Autodesk Inventor and SketchUp, and this latest release adds new features designed to improve the communication layer for projects.

CEO and co-founder Kaustuv DeBiswas described Sunglass as “Google Docs for 3D objects” when he spoke to Kim-Mai Cutler at TC Disrupt NY. Essentially, it allows designers and manufacturers to quickly and easily come together and work on projects together in real-time, without requiring that each have the same or any specialized software installed. Think about what PDFs did for online document sharing: that’s what Sunglass is attempting to do, now with the added benefit of direct communication tools.



“Describing and shipping data from one point to another, and getting back to one another takes away 25% of the time you actually spend in design manufacturing,” DeBiswas told me in a new interview today. “This made us really build a great communication platform. You don’t need Skype anymore – essentially you have a fully interactive 3D environment, where you can pin images, text and video to 3D models, without a download or plugin or anything.”

In other words, improved communication and eliminating the need for outside tools should represent a big time savings for companies. Designers can now push real-time updates and feedback to manufacturing partners, and communicate exactly why they exist and how they want them implemented all in the same place, with the help of text, visual and video aids.

Users can also now choose to just share individual parts of larger projects, and browse through project revisions through a new visual version browser. Planned API integrations on the desktop software side include CATIA, Rhino, and Processing. There are also considerable changes on the back-end, which



What is Google SketchUp 8?

Google SketchUp refers to a 3D modeling program which is primarily optimized for a wide array of applications including civil, mechanical, architectural, film and video game designs. It emphasizes the ease involved in using the program and a repository of model assemblies including automobiles, entourage, windows and doors which is called a 3D warehouse available online. This is useful in allowing designers to easily locate, contribute, download and use free models. One of the most popular versions of this program is the Google SketchUp 8. It has received extreme popularity because of its drawing layout functionality which permits surface rendering in various styles while also accommodating third-party plug-ins and enabling other useful capabilities including photo realistic rendering and placing models in Google Earth. Google SketchUp 8 is also capable of offering numerous ways to perform even the most complex tasks. It allows you to easily access the huge pile of geographical resources offered by Google and take advantage of its newer and more improved features including the following:

- Model Geo-location with the help of Google Maps
- Color imagery and accurate terrain
- Match photo improvements
- Building maker
- A newer set of tools that make the process of using Google SketchUp 8 easier including Union, Intersect, Subtract, Trim and Split
- Angular layout dimensions
- Pull or Push pre-selected faces
- Configurable dashed lines in layout

Brainmeasures Google SketchUp 8 Certification Program

Becoming a real expert in the field of using Google SketchUp 8 is never difficult if you take part in the Google SketchUp 8 certification program which is now available at Brainmeasures. Considering the excellent reputation of Brainmeasures, you can expect this online certification company to provide you with all the information that you need to become a real expert in the field after deciding to enroll in its Google SketchUp course. This certification course gives you the chance to undergo a real and extensive Google SketchUp 8 training which is guaranteed to help you understand the major roles and functions played by Google SketchUp 8, the specific features installed in the program, the set of tools that form a major part of it and the many things that you can do to take full advantage of the program especially in the field of mechanical, architectural, civil and film and video game designing. The certificate that you will receive from Brainmeasures after you complete its Google SketchUp 8 certification course will already be enough to show how proficient you are in using the program.

Highlights of the Google SketchUp 8 Certification Program from Brainmeasures

The proven comprehensiveness of the Google SketchUp 8 certification program which you can now access at Brainmeasures is one of the major reasons why it has continued to capture the attention of those who want to master the program. With the help of Brainmeasures Google SketchUp 8 certification course, you will no longer find it hard to master the following:

- Starting to use Google SketchUp 8
- Familiarizing yourself on how the Google SketchUp 8 program works
- Establishing an effective modeling mindset
- Basics of modeling using SketchupUp



- Taking advantage of SketchUp to build buildings and any other amazing modeling structures
- Understanding the major components of SketchUp and how they work
- Organizing all your models with the help of the program
- Modeling using photographs
- How to view models in various ways?
- Taking advantage of styles and shadows when modeling
- Basic steps that you need to follow when trying to present your created model within SketchUp
- Working with your models with the help of the 3D warehouse and
- Google Earth
- How to print your SketchUp work and effectively export animations and images?
- Taking advantage of layout when trying to create presentation documents
- Understanding the most common SketchUp traps
- Useful extensions, resources and plug-ins that you should consider collecting

Beneficiaries of the Google SketchUp 8 Certification Program

Due to the many things that you will learn from the Google SketchUp 8 certification program offered by Brainmeasures, it is safe to assume that it will continue to benefit anyone who is greatly interested about increasing the level of their knowledge about the program. This is most suitable for all individuals and professionals who have little or zero knowledge and experience about 3D drawing and SketchUp but who are greatly interested about starting to create highly effective models with the help of this popular modeling program.

Job Opportunities after Completing a Google SketchUp 8 Certification Course

Successfully completing a Google SketchUp 8 certification course is also beneficial for you because of its ability to help you increase the number of your career opportunities. With the help of your Google SketchUp 8 certification, you will become even more effective and successful in the following positions:

- Google SketchUp Software Engineer
- Google SketchUp Artist
- Google SketchUp Graphic Designer
- Architectural Designer
- Project Designer

Expected Salary for Google SketchUp 8 Certification Holders

Being one of the holders of Google SketchUp 8 certification is also a major help in improving your financial stability. You may find your Google SketchUp 8 certification useful in getting the position of a Google SketchUp 8 artist which gives you the opportunity to earn around \$48,000 to \$70,000 annually. You may also work as an architectural designer which allows you to receive a salary within the range of \$75,000 to \$110,000 per year.

Live SketchUp Classes & Learning Resources

SketchUp, the free 3D modeling software is one of my favorite woodworking tools. It doesn't cut joints or finish projects, but it helps me make sure the joints I cut are in the right places, and the experience building a project on the computer screen first makes valuable shop time more efficient and error free. In addition to spending a lot of time the past few years using SketchUp, I've also spent time teaching people what I know and learning the way people learn to use SketchUp. One of the keys to successful teaching (or learning) is to recognize that not everyone picks up and retains information in the same way. There are also several levels of learning. Modeling in SketchUp is one of the things where it's easy to pick up some basic skills, and then get stuck well before you reach the point of using the software to its full potential. If you've been hearing the buzz about SketchUp, want to add it to your bag of tricks, and want to get really good at using it, we have resources that will help no matter what your style of learning.

In addition to the hundreds of models available in the Popular Woodworking Magazine 3D Warehouse collection, we have a section of our blog devoted to tips and techniques for using SketchUp for planning woodworking projects. If you learn better from watching videos or books, we have both available in the SketchUp section of our store. If you prefer to learn directly, and would like to get some individual, hands-on help, here are several opportunities in the coming weeks where you can meet me in person and get the answers to the things you may be struggling with. I'll be teaching SketchUp classes at both the Woodworking in America West conference in Pasadena, California, October 12-14 and Woodworking in America Midwest in the Cincinnati area November 2-4. The WIA sessions will focus on common things SketchUp users struggle with, and ways to pretend you're building things in the shop when you model in SketchUp (that really does make it easier).

Later in November, I will be teaching two separate 4-day sessions in learning SketchUp for designing and planning woodworking, furniture and cabinetmaking projects. The first class will be November 16-19 here in the Cincinnati area. The last week of November will find me in the Atlanta area, teaching a class hosted by the Gwinnett Woodworkers Association. The Atlanta class will run Tuesday through Friday, November 27-30. In my classes we start with building a firm foundation of understanding what goes on when you work in SketchUp, and how to prevent things from becoming a sticky, stretchy and confusing mess. Then we move through a series of real-world woodworking projects. There is plenty of time for practice and problem solving. By the end of class, you will be equipped with the skills to create detailed models that contain all the information needed to build just about anything you can imagine.

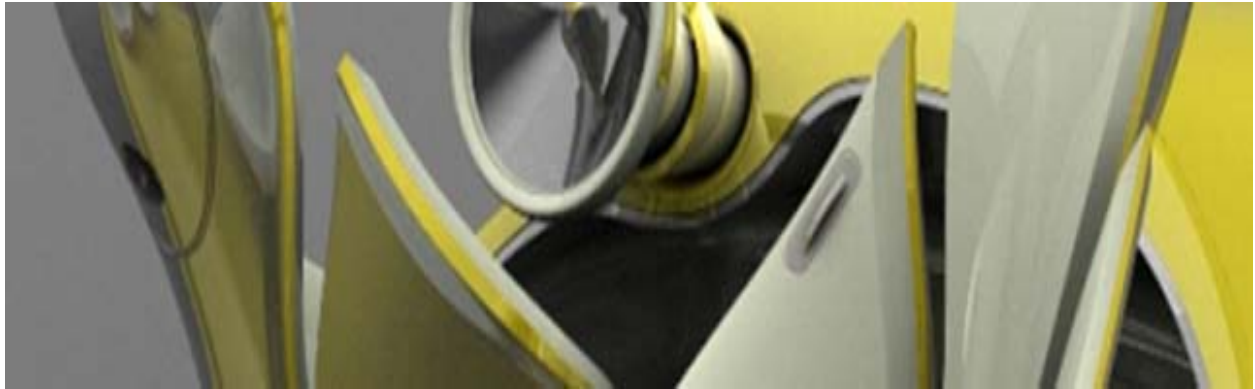
Detailed information about Bob Lang's SketchUp classes can be found at [this link](#).

Both of these classes are limited to small groups, and at their moment there are still a few openings in both Atlanta and Cincinnati. And of course it's not too late to register for either of the Woodworking in America conferences.

Shaderlight heads to SketchUp 3D Basecamp 2012

Next week sees some of the Shaderlight team returning to Colorado for the fourth ever SketchUp 3D Basecamp. The three day event attracts SketchUp fans from all over the world and is one that we wouldn't want to miss.

The [official schedule](#) for the event has just been announced and promises a packed few days. There will be plenty of opportunity to see Shaderlight in action as our resident rendering guru, Martin Cox, will be presenting as part of the 'rendering roundup' on Monday and will be giving a full demonstration of the number one SketchUp renderer in an 'unconference' session on Tuesday.



Throughout the event Martin and our CEO, Graham Wylie, will be on hand to answer any rendering queries and talk about what we've got planned for Shaderlight over the coming months. Each morning they can be found at one of the vendor tables around the event however to schedule meeting with either of them, just drop an email to info1@artvps.com

For the users that can't make it to Boulder there will be a chance to see Martin's Shaderlight demonstration at an exclusive webinar scheduled for 31st October at 16:00 GMT. [Register for free here](#).

Urban 3D modeling with Sketchup

When the developers of Google Earth made it possible for anyone to send models of real buildings for its 3D world map, they probably had people like Steve Cline in mind.

Cline, who's working toward a degree in geospatial technology from Harrisburg University of Science and Technology, has always been fascinated by maps and architecture. After earning a bachelor's degree in geography from Penn State, he got a job driving one of the original vehicles capturing images for Google's Street View.



A few years ago he started creating 3D models of buildings with a software program called SketchUp and submitted them to Google Earth. And last year he turned that hobby into a business, Urban 3D.

Have you ever seen Google Earth's 3D renderings of buildings at Saint Joseph's University or the Walnut Street Bridge in Harrisburg? Those were Cline's handiwork.

Cline has something unfortunate in common with many of today's twenty something's: He's been laid off from two jobs since graduating from Penn State University in 2006. So launching Urban 3D was a way for him to avoid meeting that fate again and make a living doing what he loved.

Cline chose three key segments for his business: colleges, tourist attractions and historic landmarks. These are places that visitors often search for on maps before they leave home, he says.

"When you're going on vacation, people have to know how to get there," Cline says.

He starts the mapping process by checking out the buildings in person. He takes pictures on location, capturing the building's textures and shapes. He uses these photos to create plain gray images with the shapes of the real structures. Then he adds textures to the gray renderings, transforming them into realistic 3D models.

The result is the stunning images he's created for a range of clients. Thanks to Urban 3D, users of Google Earth can virtually visit office buildings in Harrisburg, explore the legendary Gilded Age mansions in Newport, R.I., and tour the campuses of Saint Joseph's and Lancaster Bible College.



Soon after starting Urban 3D, Cline enrolled at Harrisburg University. The college's program in geospatial technology – basically, technologies around the collection of information relative to the earth's surface – would give him the professional contacts and technical knowledge to help his business grow. He expects to graduate with his second bachelor's degree in the fall of 2013.

"It was an opportunity for me to gain the technical expertise and make those business connections," Cline says.

The university's geospatial technology program is still small, says its lone full-time faculty member, Albert Sarvis. And since Cline is its only student who already has a college degree, he and Sarvis have worked together one-on-one. In addition to his coursework, Cline is contributing to thermal energy pipe mapping project with the new Geospatial Technology Center in Harrisburg.

Students who want a future in geospatial technology must learn how to do more than just build 3D renderings, Sarvis says. They need the skills to figure out how advanced mapping tools can be put to use in industries such as utilities, urban planning, agriculture and environmental science. And Cline recognizes that.

"You can't just know how to make maps. You need to know how to develop applications to use this technology," Sarvis says. "Steve has the awareness of what he needs to learn, which is one of his critical strengths."

For now Cline is focusing on his education. As he has more time to work on Urban 3D, though, he plans to develop more applications for his mapping business. He sees ways to improve many of the hard-to-navigate maps on the Internet, making them more intuitive to use by eliminating buttons required to zoom onto specific locations and view panoramic images. And every college could benefit from having a virtual campus map that allows visitors and prospective students to take custom 3D tours.



"It's so essential for a school to have a good map," Cline says. "Even more than any other page on your website, that page is going to get looked at."

Thanks for Reading