

# SKETCHUP-UR-SPACE

Issue - January, 2014

[www.sketchup-ur-space.com](http://www.sketchup-ur-space.com)

## TIPS & TUTORIALS

Vray Polar Light Trails  
- Lee Wylde

SketchUp Section Cut or Floor  
Plan to AutoCAD  
- Dylan Brown

## ARTICLE

Tips for Fast & Simplified  
SketchUp Usage

## COVER STORY

Sketchup Highlights  
in 2013



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## A letter direct from the editor desk highlighting on October edition

We have put our step in the year 2014. We have seen lots of enhancements with sketchup in 2013. Lots of new plugins arrived to ease the 3d modeling process. Now the users are looking forward to get more advance features which should be included with sketchup in near future – Superior support for searching and setting up Ruby extensions, improved tools for drafting, superior tools compatible with rendering engines, faster application of the software on the large models and lots more.

So we are hopeful that the Trimble will drive sketchup to the next level in 2014.

The team of sketchup ur space is launching another spectacular edition of its magazine. In this issue our team has presented an exclusive cover story on sketchup highlighting the significant enhancements with sketchup in 2013 as well as introduction of various new rendering, animation, woodworking, 3d modeling plugins, addons, extensions.

In article section the team of sketchup ur space has presented an informative article useful for newbie and advanced level sketchup users. The article focuses on some fundamental & quick tips to speed up the modeling process of the software.

The tutorial section is enriched with 4(four) enlightening tutorials presented by Tim Killen, Zernan Suarez, Lee Wylde and Dylan Brown.

Tim Killen has over 35 years experience in Engineering & IT management. In his article Tim briefly explains how he utilizes sketchup in woodworking projects.

Zernan Suarez, a Professional Interior Designer cum 3D Visualizer for the past 10 years, has provided an exclusive tutorial through which he shows how to manage the intensity and shadows applying omni lights in vray for sketchup 1.48.91.

Lee Wylde, a leading architect and interior designer, has presented a tutorial that focuses on V-ray polar light. In this tutorial Lee shows how to apply HDRI and V-Ray Physical Cameras to set up a scene.

Dylan Brown, the most promising architect, has made a unique tutorial on sketchup that focuses on the steps of exporting a section cut from a SketchUp model to a 2D line drawing in AutoCAD.

In the blog and news section there will be some latest information on upcoming 3d modeling softwares and sketchup plugins.

Hope our readers will enjoy this issue and prove their valuable suggestions & feedbacks.

**If you have any queries concerning publication, subscription, troubles navigating the site, please mail us at [rajib@sketchup-ur-space.com](mailto:rajib@sketchup-ur-space.com)**



Best wishes  
**Rajib Dey**  
Editor

## Rendezvous with Belen Fernandez Franca - Technical Architect and authorized trainer for Trimble SketchUp

**Hello! Please tell us something about your background.**

My name is Belén, I'm 31 years old and I'm from Barcelona, Spain. I am a Technical Architect and authorized trainer for Trimble SketchUp. For more than 10 years now SketchUp is my main tool, either for training or to make several constructive info graphics.

I am interested in the world of Education and Architecture, and would like to be part of such projects where I could possibly develop my professional skills as much as possible.

**When and how did you discover Sketchup?**

My first contact with the program was in 2002, four years before being bought by Google. At that time, I was at college, studying the 2nd year of a Technical Architecture degree. I combined my studies with a part-time job as an intern in the Graphics Department of the Polytechnic University of Catalonia (Barcelona).

It was at this Department, where I used the software for the first time. The interface and system use were similar, but processed slowly and lacked many of the tools that highlight this program as the "3d warehouse", the connection with Google Earth, various tools like "Follow Me", "Sections" or manager of shadows ... and not forgetting its limited import and export formats.

**What is the most significant aspect of Sketchup?**

In my opinion, the best feature of SketchUp is how quickly you can draw. I think the way SketchUp combines modeling tools with 3D space management (orbiting, references to other elements ...) ... is really fantastic!

I must not forget to say that the 3D Warehouse, is also fabulous.

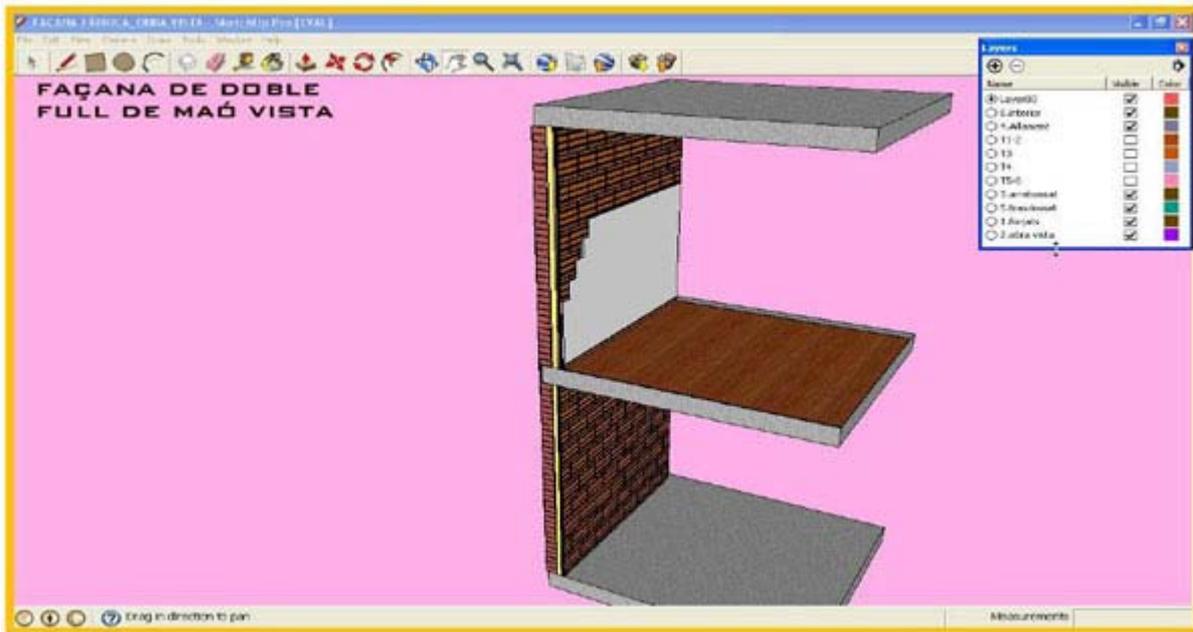
I would like to take this opportunity to thank and congratulate all the people that is hanging their models there. Thanks and keep it up!



**What types of projects do you generally accomplish with Sketchup? What are some of the most impressive projects you've worked on?**

In my early years of contact with SketchUp, during my collaborations with the University, performing different projects on 3D surveys of cities and towns of my country with cultural attractions such as Barcelona, Arenys de Mar etc...





**What are your suggestions for becoming a successful architect?**

To work with passion and perseverance, to believe in your own projects of the moment without losing sight of the future. And the most important of all, never give up...!

**What suggestions do you want to provide for Sketchup our space team?**

I think you do an excellent job; my suggestion is simply that you continue working as before!

## SketchUp - Look Back in 2013

SketchUp is the most effective software for creating a 3D model in the most simplified and error free manner. In an effort to simplify the entire process of 3D modeling continuous up-gradation and enhancement of the software are crucial. In 2013, various plug-ins and software have been introduced to make the application of SketchUp smooth and even more user friendly.

In the past one year a range of efforts have been made keeping in view the convenience of SketchUp users. In the month of January 2013, PolicyPak Software, desktop management and Group Policy released a management Pak for Google Sketchup which allows the IT admins to enforce an "Auto-Save" feature that helps the users to protect their unsaved works from losing. In the same month, The University of Utah's iSTAR educational program was organized at Universal's theme parks for students with autism to create 3-D models of their own individual design. The program uses Trimble's SketchUp to check the child's spatial-visual strengths. Certified SketchUp instructor and designer for Universal Creative, Steve Gross, mentored children on how he used SketchUp to design attractions like Transformers and the amazing world of Harry Potter. The SketchUp design program proved to be easy to learn and use for these students and helped in enhancing their confidence and interacting skills.

For an improved user experience of rendering with Shaderlight, version 2.4 of the leading interactive and intuitive rendering plug-in to SketchUp was also launched which was available to existing Shaderlight v2 customers for free. This release made rendering fast and efficient and also reduced memory usage up to 90%. On January 24, 2013 at the University of Iowa Main Library, Public Digital Humanities for Lunch (PDH4L) offered users a free tour of 3D modeling software. Computers were offered to interested participants. Cory Taylor refers Trimble SketchUp as intuitive 3-D modeling software which is remarkably easy to use and has a very short learning curve. PDH4L talks continued throughout 2013 to focus on the nature and role of public digital humanities in contemporary culture.



SketchUp gained a new status with its application in crime scene reconstruction. In the month of February, SketchUp was used in an absolutely different domain by Albert Schade, a detective in the Forensic Services Unit for the Berks County District Attorney's Office and the mind behind a website that details workflows for modeling crime scenes in 3D, Crime Scene Interactive. SketchUp aids to model real measurements easily and has the ability to add on features via Ruby along with a wide range of import/export options. As per Schade, SketchUp is highly useful in reconstructing the crime before the court, through the varied data collected at the crime scene.

Keeping the popularity of SketchUp in mind, Free Google SketchUp Tutorials were offered throughout the year. Google SketchUp had offered all of the support options in the tutorial like video tutorials, tips and tricks, a journal, and an assist touch. To cater to the growing user base, Mansycom Consultants, a Yash Birla Group company, partnered with Google to market and distribute 'Google SketchUp Pro' in India. "Learning SketchUp Tutorial", a comprehensive training guide to learn and master this 3d modeling program was released Infinite Skills Inc. in February. Scott Onstott, the author of the course is a design consultant. The course was designed and developed to assist beginners as well as experienced users to maximize the capabilities of the program and included various topics like designing architectural models, mastering surfaces and edges, and covering final publishing, presentation, color control, and importing & exporting procedures.

eDrawings Publisher SketchUp Google was also presented in March. The downloadable free eDrawings for Google SketchUp are available for System with Google SketchUp version 5.0 (Free/ Professional) or Google SketchUp version 6.0 (Free/ Professional).



New Plugin, Canvas v1.0.6 Beta, was released by Renderiza (Rafael Rivera) in 2013. Easy to activate, deactivate and use, this canvas can interactively paint groups and components in a spray type manner.

A special modeling party in Eindhoven was organized by the SketchUp Pro Super Modelers in May. Sponsored by Design8 the event was ideal for amateur as well as experienced users as there were crash course SketchUp for beginners and a special modeling event for the more experienced SketchUp user. Elaborate explanation of the various tools of SketchUp and tips & tricks to speed up modeling process were provided by highly experienced SketchUp users. Design8 was present with 3D Printer to show how to make a tangible plastic object from a 3D SketchUp model. 3D building modeling for Google Earth was also discussed in the workshop to enhance the knowledge of experienced SketchUp users.

Improved LumenRT 4.1 Studio, which added extended capabilities for large MicroStation models and Revit export was also introduced in this month. The new LumenRT 4.1 Studio included improved Revit export with more complete textures, better Mac performance, enhanced support for exporting larger Bentley MicroStation models, new animated water materials like ocean, sea, lake, pond and various other features.

The month of May, 2013 also witnessed the release of the new SketchUp plugin by SketchUcation. Through SketchUcation plugin store, it is easier to find, download, install and manage plugins which are difficult to find.

The much awaited version of 3D modeling platform, SketchUp 2013 was introduced by Trimble. This version features an Extension Warehouse for add-on tools. This release included varied improvements in SketchUp Pro's 2D documentation capabilities, including enhanced vector drawing tools, faster rendering and zooming, and customizable hatching styles. These updates made SketchUp Pro powerful, precise and customizable for detailing, dimensioning and organizing models in professional documents.



In July, Sefaira Concept released new plugin compatible with sketchup 2013. This made uploading SketchUp 2013 files directly to Concept and use of the Sefaira SketchUp Plugin with SketchUp 2013 easy. The Sefaira Concept SketchUp Plugin helps create Concept-ready SketchUp models quickly and allows visualizing how Concept will interpret the model etc.

From 22nd to 26th July, Blue Marble Geographics ([bluemarblegeo.com](http://bluemarblegeo.com)) presented a conference on the COAST Tool at the 2013 MAPPS Summer Conference. Blue Marble's geospatial data manipulation, visualization and conversion solutions are used worldwide by thousands of GIS analysts at software, civil engineering, oil and gas, mining, technology companies, surveying, as well as governmental and university organizations.

In August, Abvent introduced us to Artlantis 5 with new features which is claimed to be the latest version of the fastest, stand-alone 3D and photo-realistic rendering application created especially for designers and architects. The application includes various innovative features like a completely redesigned interface; a new Artlantis Media catalog and InApp store; and a free iVisit 3D option for panoramas and VR objects. Artlantis 5 also optimizes the display of the project and provides a larger preview size.

In the same month, RaySupreme v1.1 was released for 3D modeling and rendering. It is an enhanced version of BrainDistrict's 3D software which includes new technology (text-to-3D) to enable users to create 3D objects and scenes by typing texts in the keyboards. The new version of the software includes up to 10 new modeling tools, viewport background references, true point and spot lights etc and is available for Mac OS X, Windows 7/8 and Linux.

SketchUp author Bonnie Roskes introduced a comprehensive guidebook for teaching in 3D, SketchUp 2013 Hands-On: Student Coursebook. The book covers all the tools and features of SketchUp with illustrations and step-by-step instructions. The book also provides an add-on guide to 35 popular SketchUp extensions.

E-on Software, creators of the leading solutions for Digital Nature, unveiled Plant Factory in the same month. Plant Factory has a unique technology for creating and rendering top quality 3D plants and is developed for the CG, SFX, Architecture and Gaming communities. It offers customized solutions to the users and is competent to create any kind of vegetation with high end detailing and animate all plant aspects by using precise wind and breeze algorithms, render stills and animations for compositing jobs as well as for billboards, generate procedural geometry and materials of unlimited detail etc.



In October, final releases of LightWave 11.6 software for 3D modeling, capturing, retargeting, animation, and rendering and NevronMotion plug-in were made available. NevronMotion plug-in uses the Microsoft Kinect camera to capture motion in real time for retargeting to 3D or live-performance characters.

With continuous and consistent up-gradations and newer versions, SketchUp has turned into the most reliable 3D program for designers, engineers, architects and others as it is widely used in varied domains. In this year, 2014, we anticipate receiving even advanced programs for simplified and efficient application of the software.

## Tips for Fast and Simplified SketchUp Usage

SketchUp is one of the most widely accepted software for creating a 3D model. Being a free 3D for everyone the trend to use it is growing day by day. This simple yet powerful tool has changed the entire outlook of 3D modeling as it helps in creating smarter designs faster. Here we present some pro tips and tricks that speeds up and simplifies the usage of this user friendly software even more. These guidelines enhance the SketchUp workflow for fresher's and experienced user equally and help them get a better grasp of the software.

**Knowing SketchUp:** It is very crucial to know this 3D modeling tool thoroughly to use the program to its full potentiality. It is always advisable for a new user to keep the Instructor panel (an improved form of the software manual) nearby to be on the right track. The Instructor panel includes all the information required to know about the selected tool. A looping animation comes with short descriptions, operation specifics etc, that showcase how to use it.

**Using Shortcuts:** SketchUp comes with a predefined set of shortcuts that helps in fast workflow, making the user interface clean as well as permitting more screen space for you to model, besides, you can also customize these shortcuts as per your requirement. These shortcuts enhance the productivity and convenience of the user as this helps in skipping the toolbars and menus. It is advisable to keep toolbars like Layers, Face Styles, Shadows, Sections and Walkthrough visible. Other toolbars can be made visible as and when required by using shortcuts.

**Following Guidelines:** Guidelines are vital for creating quick and accurate models. The Guidelines in SketchUp are very flexible, multi-directional and reusable. Guidelines can be used to check measurements, lay out different grids, assist with snapping or follow a slope, a line, etc.

**The Inference Engine:** The inference engine is SketchUp's most distinctive feature that makes it one of the most efficient and fast 3D modeller. Also known as the geometric analysis engine, the inference engine is very intuitive to comprehend and use. It supports you in drawing precisely by constantly offering colour-coded visual cues.



**Avoiding Surface Problems:** To avoid surface problems the Line Profile Style thickness as a visual cue should be used to check if any floating line that did not cut and merge into the surface properly. Through Line Profile Style Stray lines that are not actually part of the floor surface can be easily detected.

**Application of Color Lines by Axis:** Color lines allow you to spot any issue and fix it immediately. Color Lines by Axis colour all the lines parallel to the axis system in blue, red and green and uncover all the probable line-work issues. This command should be used while importing CAD drawings into SketchUp to ensure that the lines are correct.

**Knowing SketchUp:** SketchUp commands like FollowMe and PushPull often creates flipped faces that prevent the user from seeing whether the model is textured or not. The Monochrome Face Style mode helps to uncover all flipped normal issues.

**Detecting & Fixing Hidden Problems:** The X-Ray Face Style mode is good at detecting hidden geometry. Switching to X-Ray mode and edit is possible even during another command which saves a lot of time. This also helps in detecting and fixing varied leftovers hidden inside the model volume which cannot be located normally.

**Focusing on the Parts to be Worked on:** For convenience fade back elements to focus on the parts to be worked on while still seeing the big picture. Use toggles like Hide Rest of Model and Hide Similar Components. These commands hide elements away for better concentration. The fade levels in the Model Info dialog can be controlled.

**Precise Use of Components:** Components should always be kept simple for easy application of alterations whenever required. It is a group that uses edits to instances of that particular group. Creating smart component allows changes on very few single items that in turn change the complete model much faster. In complex models always keep a copy of each such component outside the main model structure to modify it without changing the main model.

**Using Photo Matching:** SketchUp has one of the best photo-matching tools. Any subject can be modeled on the basis of various photos imported into SketchUp. To attain an accurate model one should keep referring two or more photos. You can then bake photo information on the model as texture. Photo Matching is very useful to create contextual 3D models for scenes.

**Applying the Options in the Scenes Dialog:** Various layers of the flexibility of scenes can be explored in SketchUp. Using the options in the Scenes dialog explores the potentiality of the scenes at creating a scene in SketchUp helps to capture a state of the model. There are various properties like camera, layers, style, shadow, hidden geometry, sections and axes location, to choose from to capture or ignore while doing so.

**Using Group Before Layer:** Both groups and layers should be used to maintain full control of the scene. For hassle free usage users should group first and layer later. By grouping and then assigning the group to layers, two levels of information separation can be obtained which again can be improved by using the scene system for more than saving viewpoints alone.

**Standardizing Files With Templates:** Templates should be used to set standards of files while collaborating with others. SketchUp files saved as template can be reused later and can also be set as default when opening a new file. This info can also include preferred units, layers, geometry, styles, copyright credit, materials, geolocation and others.

**Good Housekeeping Improves Performance:** SketchUp is widely preferred as SketchUp models save all the information inside the file. Employ the Purge Unused command in the components, material and layers dialogs to clear excess elements. Addressing textures and exporting model for rendering in an external application always create low-resolution versions to use in SketchUp.

**Positioning the Pivot on the Model:** Creating dummy line work inside geometry is the best way to position the pivot point anywhere on the Model. For groups and components, SketchUp comes with predefined Move and Rotate controls with the Move tool. Line work can be added inside the group as SketchUp takes into consideration all the geometry inside a group for the centre of mass Calculation. This line work is hidden until required and it can shift the pivot point as per need. This method can be applied to set accurate pivot points for spotlights, doors, windows, etc.

**SketchUp in Sync:** Adopting an internet-based file sharing and storage system saves headaches in future. Whenever online use Dropbox as main folder for all current projects to ensure that everything done is synced across all the devices. Set default folders of SketchUp for components, models, texture images, styles, watermark images, materials and also export them inside Dropbox. This helps you to carry your work files as well as resources anywhere with you always.

## Mixamo introduced Fuse, the latest Universal 3D Character Creator For Steam

Mixamo, the leading solution provider in 3D character animation, just released Fuse. It is a collective expandable character originator that makes a sea change in 3D modeling and texturing.

Fuse empowers users to create superior quality, royalty-free 3D characters instantly by surfing , resizing, modifying and merging several body parts, textures, materials, clothing and accessories.

This newly launched software is incorporated with Mixamo's online 3D animation platform and through which the users will be able to animate their Fuse characters efficiently.

In future the users will be able to generate, allocate and include their own smart textures as well as custom-modeled body parts, clothes and accessories to Fuse.

After finishing their Fuse characters, the users will be able to save and import them (in completely editable .obj format) into their games, machinimas, films, or 3D software; Auto-Rig them, explore numerous superior quality animations, and include motions to their models rapidly.

Fuse can be accessible on Steam with a reduction of 50% (\$49 instead of \$99) and a compilation of 64 body parts (including, TF2, military, zombie, generic character assets), 57 clothing items and 25 smart textures.

Fuse Basic is also obtainable for free containing 28 body parts (including TF2, some generic character assets), 25 clothing items and 10 smart textures. The two versions are released with identical feature sets. The first smart texture DLC is also accessible on Steam with a 57% discount (\$29.99, down from \$69.99).



[https://www.youtube.com/watch?feature=player\\_embedded&v=bohAZUbKUK4](https://www.youtube.com/watch?feature=player_embedded&v=bohAZUbKUK4)

## SketchUp Rendering Using V-Ray - An online course by Brian Bradley

Brian Bradley has presented this useful online course focusing on how to render with sketchup and v-ray. Be familiar with generating pragmatic 3D architectural drawings with V-Ray. The sketchup users can learn how to go with a solo scene involving interior & exterior elements and insert lights, shift cameras and develop objects with transparent and reflective surfaces.

In this rendering course Brian Bradley has also described briefly the conceptions associated with irradiance mapping, perspective correction, and fixed rate sampling. He also explains how to control each of the V-Ray tools as well as its material and lighting types for producing exact effects.

**Brian Bradley has highlighted on the following topics:-**

- Set up V-Ray
- Make natural daylight with V-Ray Sun and Sky
- Bouncing light around with irradiance mapping and light caches
- Setting up a depth-of-field effect
- Generate diffuse and reflective surfaces
- Perform with the Adaptive DMC engine
- Maneuver color mapping
- Put in caustic lighting and occlusion effects

Get Started [www.lynda.com](http://www.lynda.com)



## An exclusive demonstration on "The SketchUp to iClone Pipeline" will be provided in the sixth annual Machinima Expo

The sixth annual Machinima Expo will take place this Sunday, November 17th, from 10am to 4pm (PST). The event will happen online and it is free for all. It is a meeting place for all the filmmakers to share films, pay attention to panels of filmmakers, and hand out three Jury awards and a Grand Jury Prize for the most wonderful films out of the 130 films presented this year.

There will be an exclusive presentation on "The SketchUp to iClone Pipeline," together with a panel discussion highlighting machinima.com founder Hugh Hancock, author of Machinima for Dummies.

This virtual film festival will occur online through the Machinima Expo 6 Ustream channel which is implanted on the machinima-expo.com website, [Facebook](#) page and [Twitter](#) page.

The Expo is a virtual film festival catering to the art of machinima, a digital based 3D medium formed within a virtual world or game engine. Machinima refer to the words "machine" + "cinema" that has grown into an exceptional fashionable digital art created with an international community. This community get the opportunity to highlight their own stories through this distinctive digital medium.



For acquiring more information about the Machinima Expo 6 or to view any of the 50 machinima films being screened for the festival, visit [www.machinima-expo.com](http://www.machinima-expo.com)

<http://vimeo.com/78654505>

## How Far with SketchUp - Sculpturing?



I'm working on this modern style stand-up desk. The joinery and sculpturing are quite different than my normal 18th C. or Shaker styles. In this view, I'm not showing much of the sculpturing and shaping. And, it's worth discussing - should you spend the time in SketchUp performing this extra work.

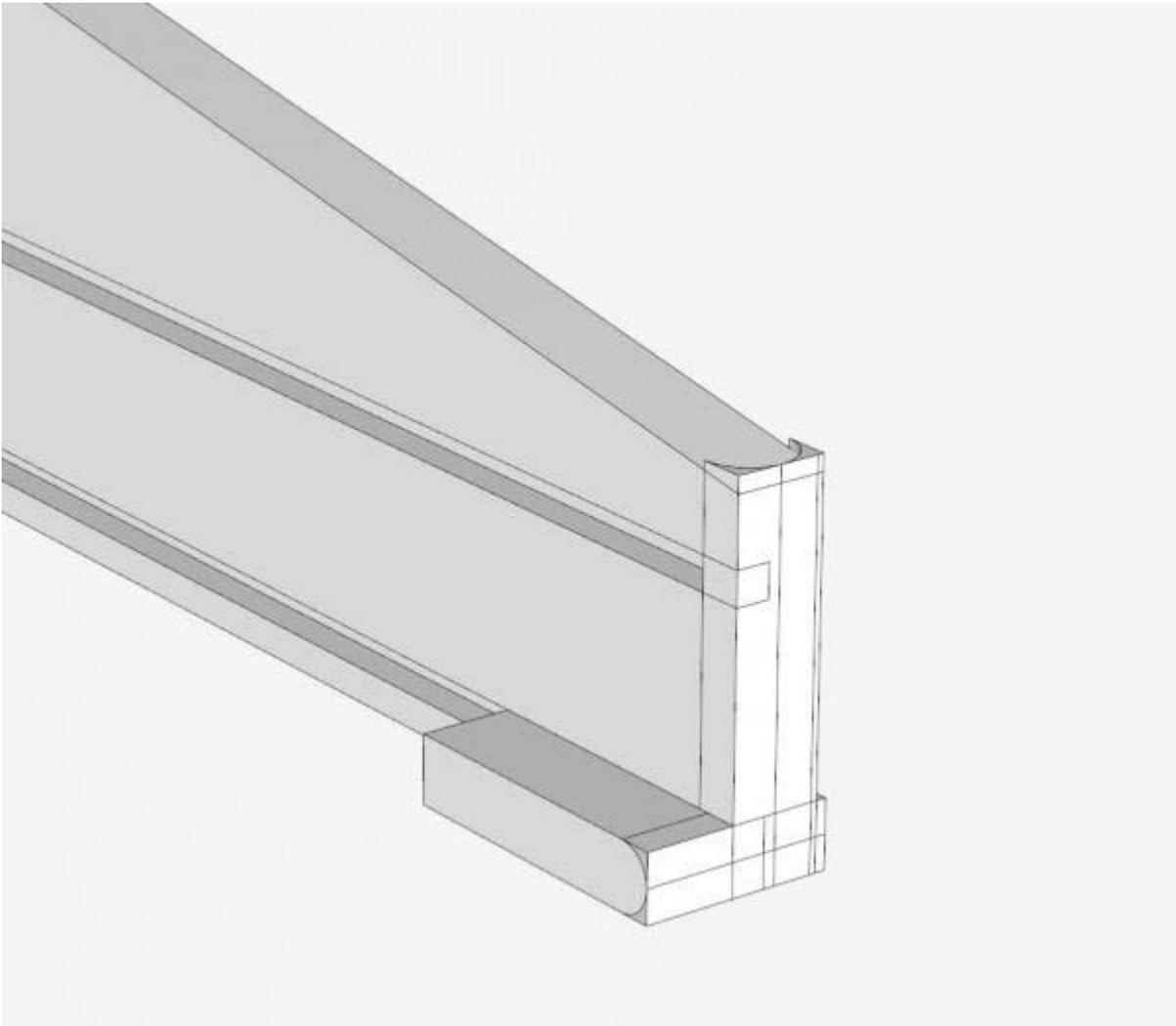


In the case of this desk, the original piece rounds over the joints in the drawer opening. Also the stretchers are rounded and shaped to connect with the legs. My construction in the shop would be to connect square pieces as shown here, and then perform the shaping later with hand tools. I don't need the shaping in SketchUp. I need what it takes in rough lumber components to initially construct.

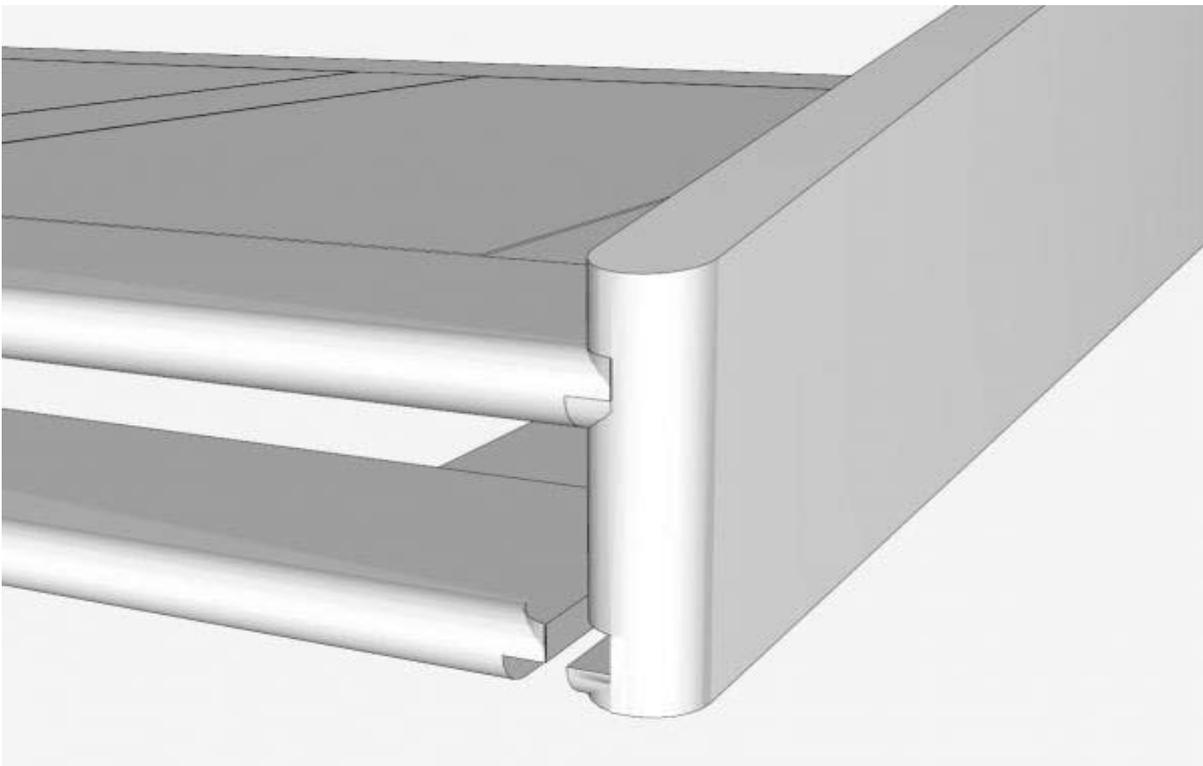
So the answer to how much to do in SketchUp, I would propose, depends on the purpose of the drawing. For me, the objective is producing a piece in shop, sculpturing in SketchUp is mostly a waste of time. And for me, performing this extra tedious work in SketchUp is substantial. It's much easier in the shop - With a file and spokeshave and my eyes, I can quite easily and quickly create suitable shapes.

In the following video, I will show my procedure for sculpturing the joints in the opening for the drawers. It's quite tedious with many steps. The clean-up after Intersecting was extreme. I can't go through all the steps because the video would take too long. So I'll discuss the steps involved.

Much of the process involves adding shaped components representing the rounding, and then doing an Intersection of all the graphics, with subsequent clean-up of the waste.



Here you can see the extra shapes added to the top of the tongue on the Rails, and the extra shapes added to the Side.



[https://www.youtube.com/watch?feature=player\\_embedded&v=QKpM6JrpksY](https://www.youtube.com/watch?feature=player_embedded&v=QKpM6JrpksY)

And here is the final assembly with the rounded joints.

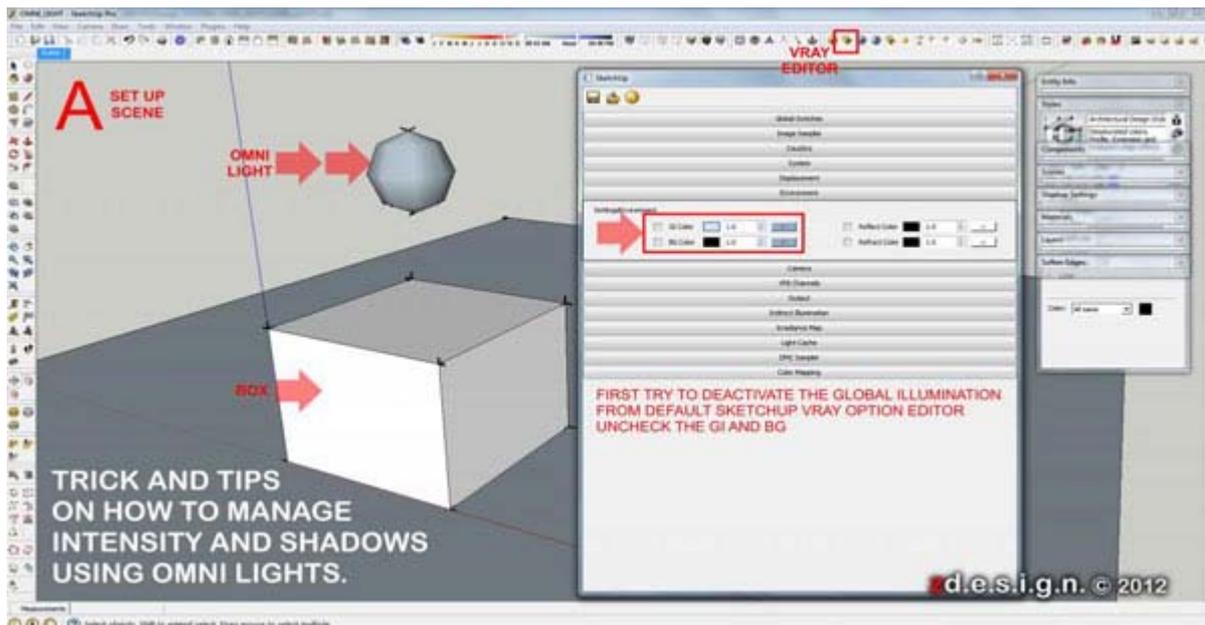


## How to manage intensity and shadows using Omni Lights in Vray for Sketchup

Here I made a simple scenario & tutorial on how to manage the intensity and shadows using omni lights in vray for sketchup 1.48.91.

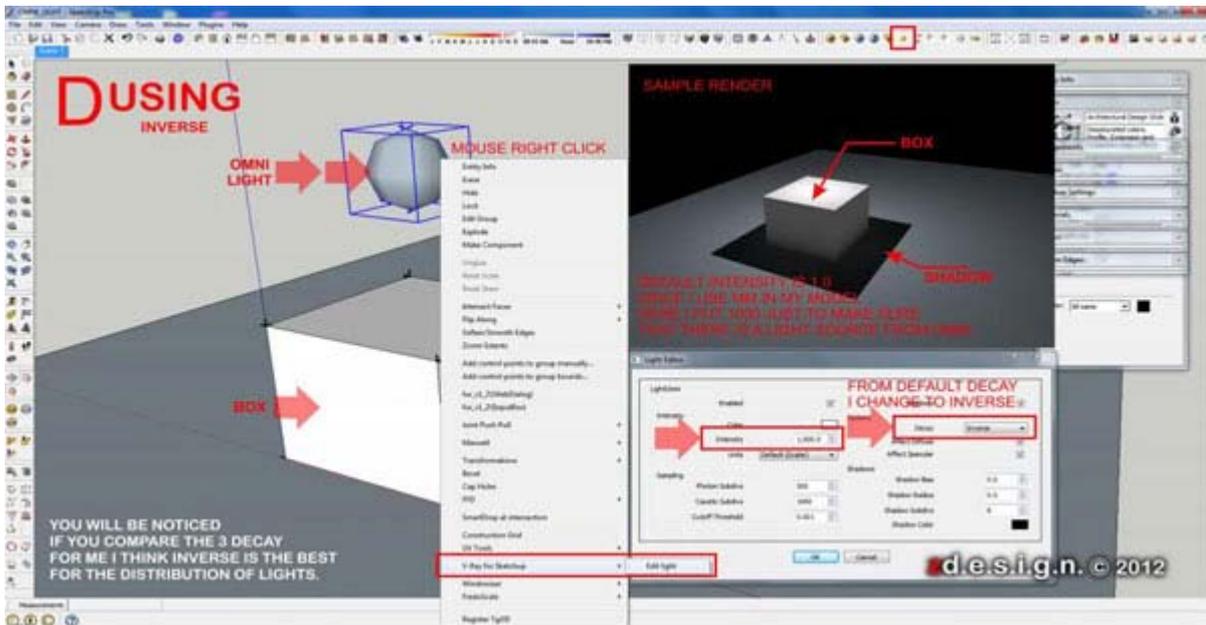


First, in vray editor I uncheck the GI and BG to make my whole scene totally black out.

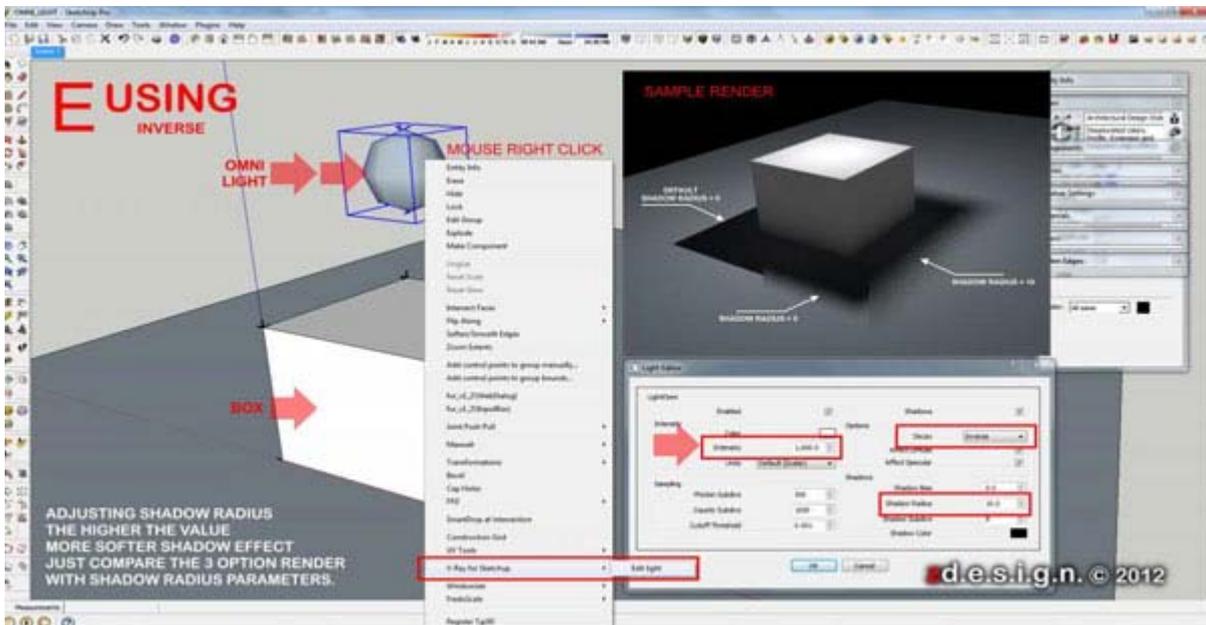


You can see here the Omni light default decay parameters with sample render.





3 Option Render with different value of shadow radius.



## V-Ray Polar Light Trails

In a follow up to my previous post regarding the fundamental settings to achieve linear light streaks using V-Ray and 3D Studio Max, I have received an inquiry regarding polar movements, i.e an object that is illuminated and spinning on an axis.

FYI I have set this scene up using HDRI and V-Ray Physical Cameras.

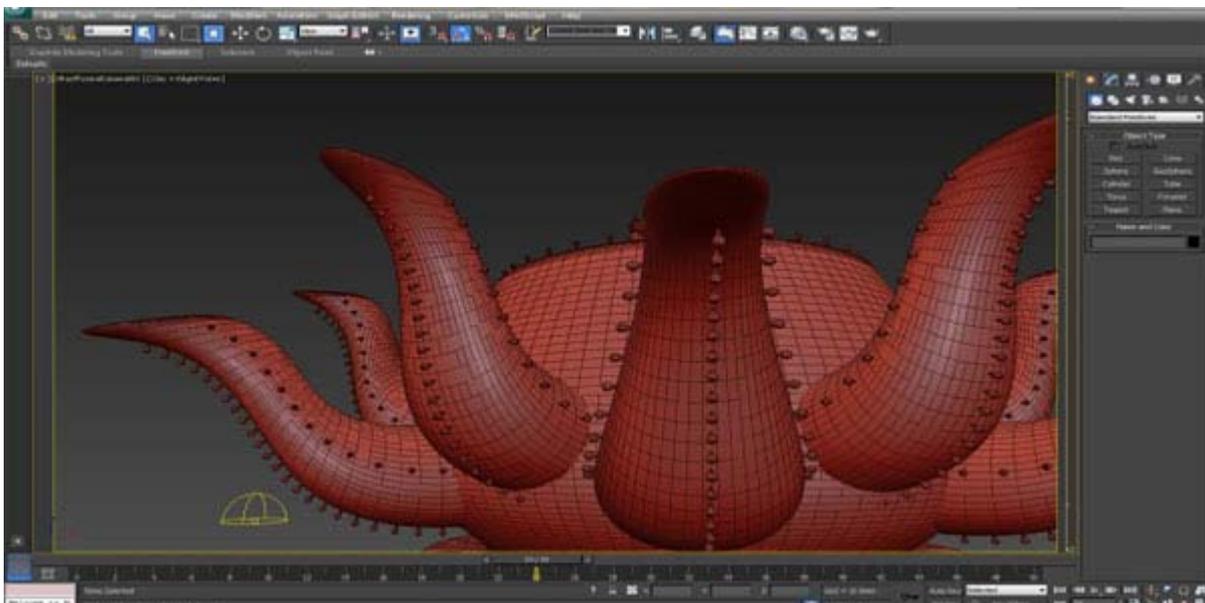
You can download the scene and it's contents here [VR\\_Polar\\_Light](#).

It's a great questions. Let's take a look at how we can achieve this.



Take this scene for example, it is similar to a fairground ride. Created from a tea pot of course! Each spout is an arm and has three layers of lights. These lights are simply bulbs that have been given a V-Ray Light Material.

Here is the scene in its entirety:



Here is a normal render of the scene without any motion blur being added, and with the respective camera settings:



Take a look at the material settings for the V-Ray Light Materials. I have set these up so you can change them to suit your needs, and to also have some fun with the lighting effects. Here is a sample if I change all 4 lights to alternate colors:

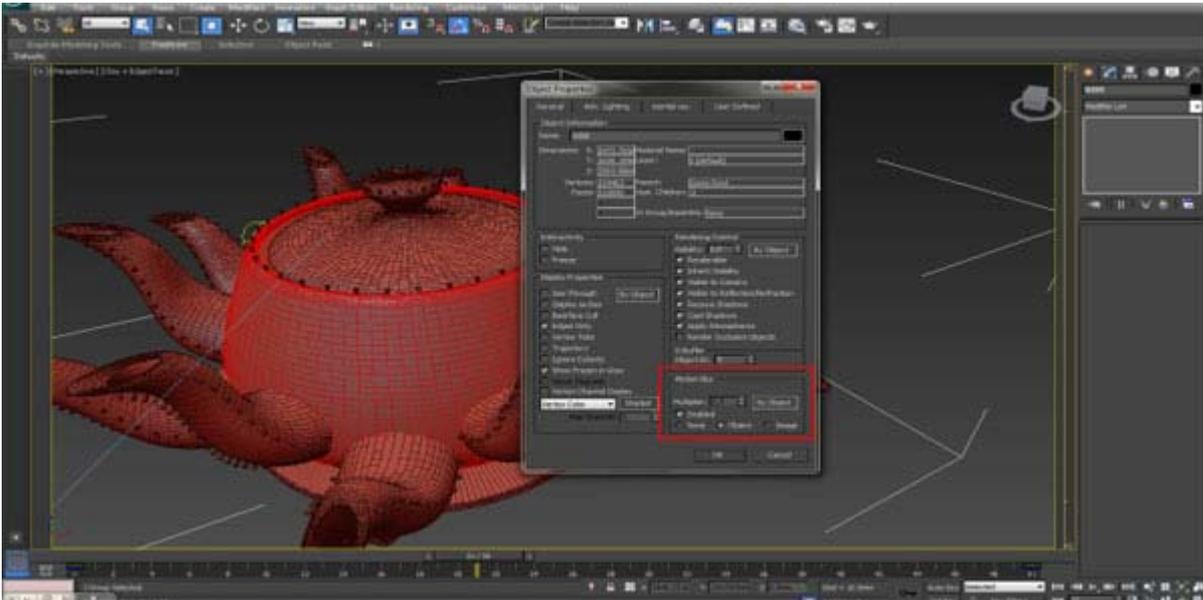


So now let's look at the characteristics of the scene than enable the light trails.

Firstly the mesh must be rotating in order to produce the effects contributing to motion blur, so we need motion. If you press the backslash button next to shift on your keyboard you should see the animation playing.

Now you will notice that the tea pot is made of components and these components have all been grouped. This is incredibly important, we only want to deal with the teapot in it's parental state and not go adding separate animation information to the groups contents, i.e we want to only have one element to deal with.

If you right click on the mesh and view its properties you will see the Motion Blur settings. Just observe them don't change them.



With this selected it now means we can expect some motion blurring to occur in the render output.

Go back to your scene and choose frame 21 on the time slider.

Now we will enable the Motion Blur function in the V-Ray Physical Camera and produce a test render. For the first render we will keep the quality of the camera settings quite low. Take a look:



With the subdivs of the camera only set to 6 you can see the grain in the render. This is not only the subdivs, but an amalgamation of the camera properties.

Remember to always have a reference for what you are trying to achieve, take a look at this exposure guide [Exposure Guide & Camera Settings](#).

So let's go ahead and change the camera settings to a longer exposure. Alter your settings to match the ones in the render below:

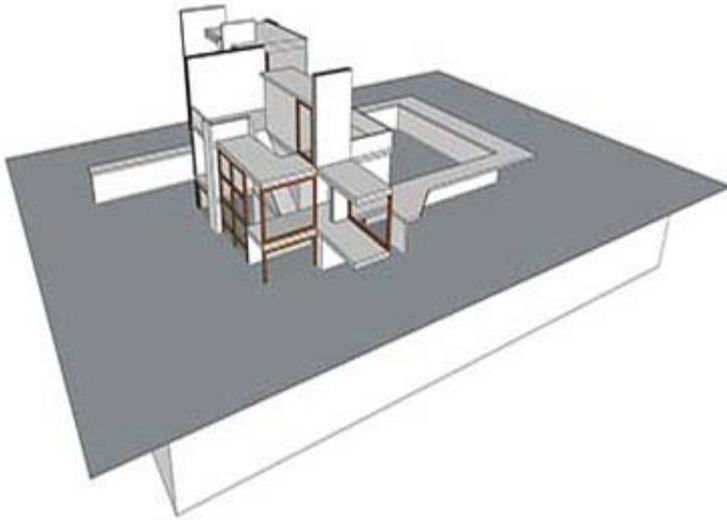


So you can see that it is not only the rotational speed of the object that determines the quality of the output, but a delicate balance of the V-Ray Physical Camera.

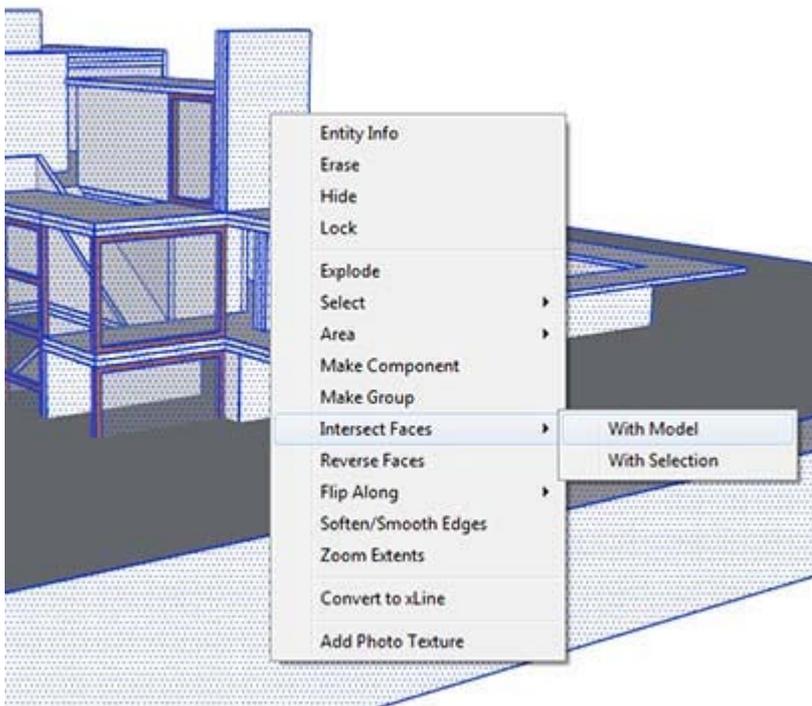
## SketchUp Section Cut or Floor Plan to AutoCAD

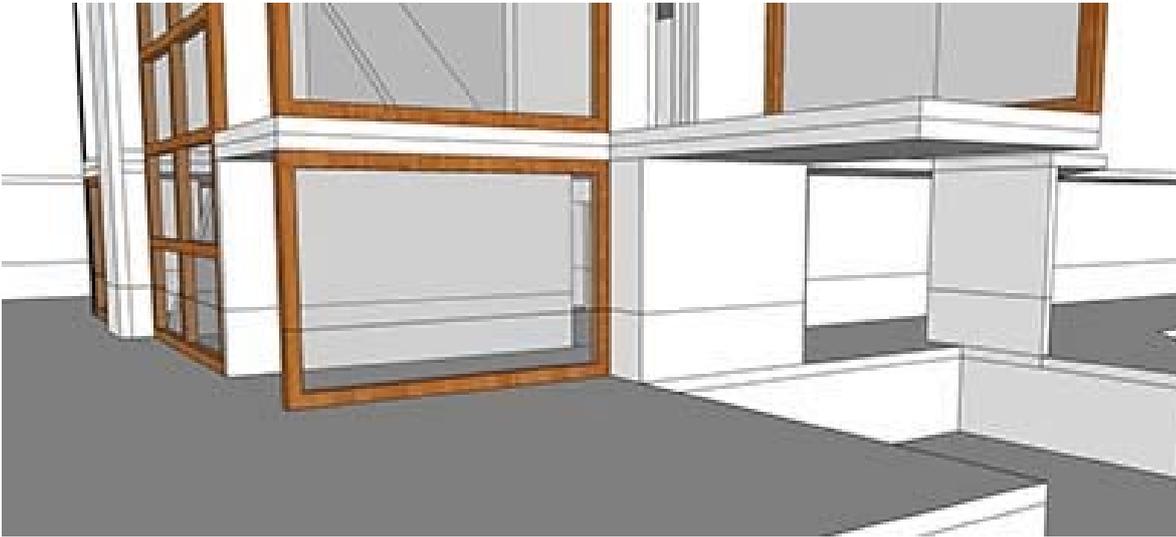
This tutorial will walk you through the steps of exporting a section cut from a SketchUp model to a 2D line drawing in AutoCAD.

1. Draw a large rectangle on the plane of where you want the section to be. It can be vertical, horizontal, or even at an odd angle. The reason for doing it this way instead of using SketchUp's built in section cut tool is that this way eliminates the empty spaces where a mass has been cut, revealing the geometry below. Example: If part of a floor is cut through, the floor should appear to be solid instead of showing any lines from the top of the walls on the floor below. It isn't that difficult to remove the extraneous lines from the section cut tool if your model is simple, but when it gets more complex, it can become confusing as to which lines should actually be hidden.

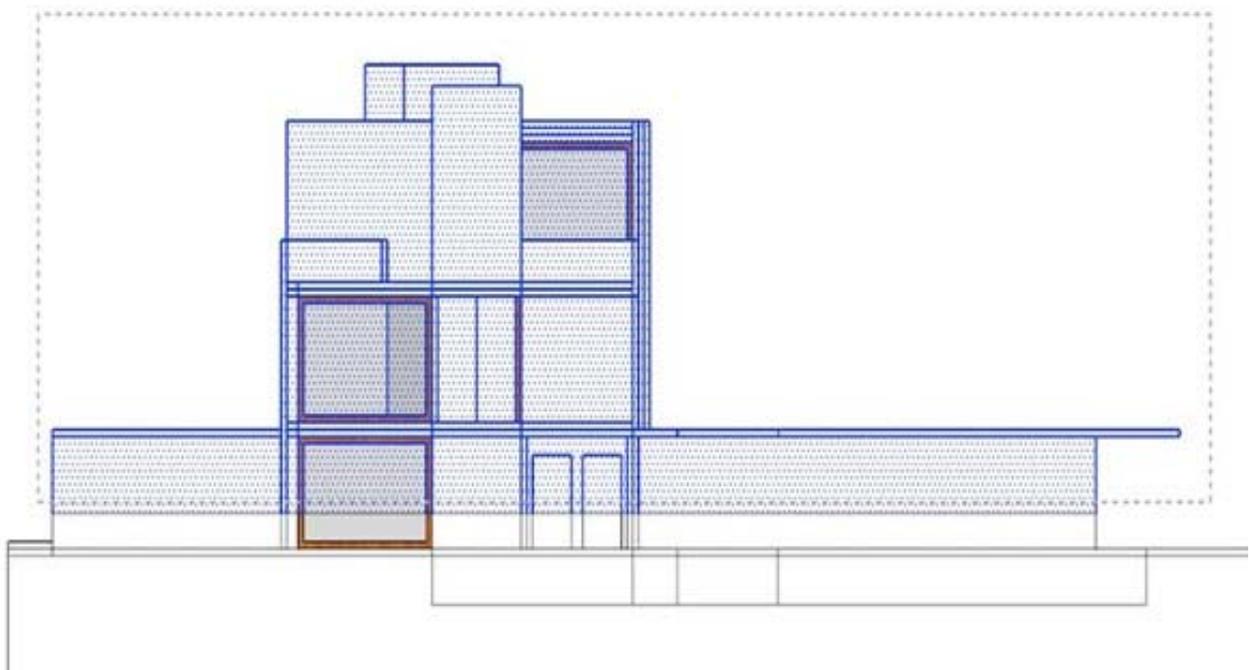


2. The next step involves intersecting the geometry, but before doing this, make sure all parts of your model are not grouped, but that the cutting plane you drew earlier is in a group. Now select all of the model geometry, and intersect the faces with the model (right click > intersect faces > with model). This will draw a line anywhere the plane cuts through the model.



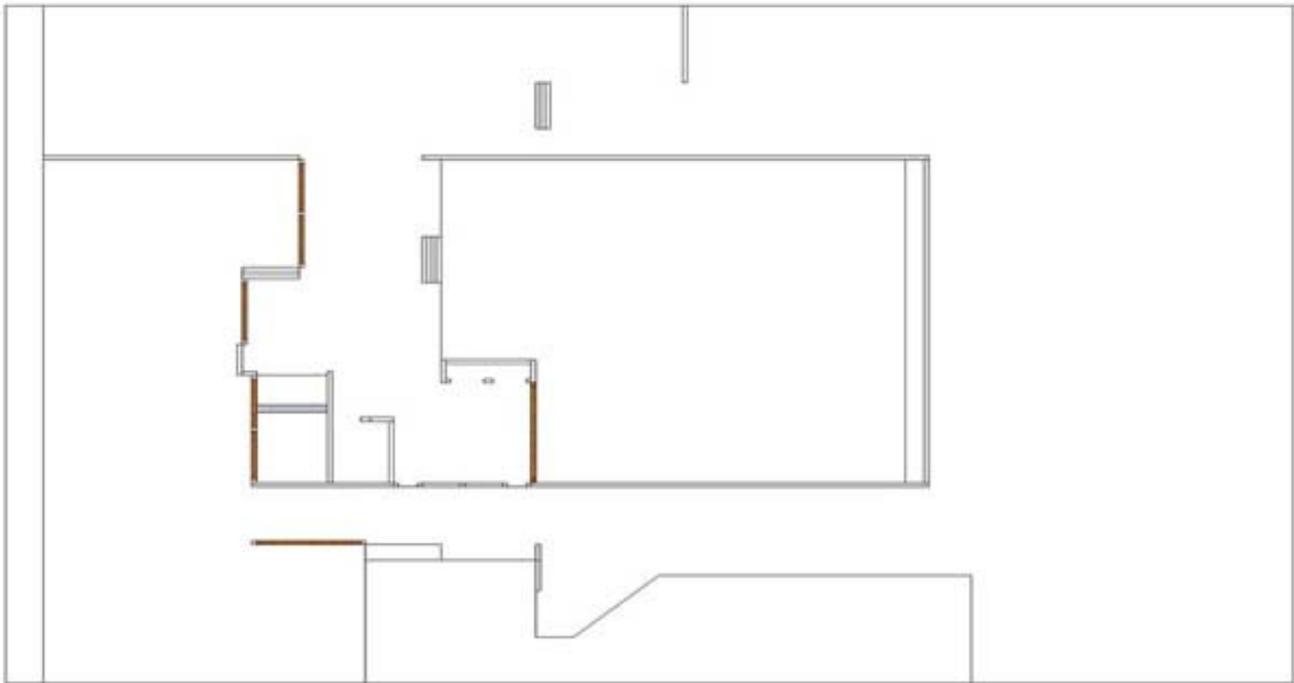


3. Delete the cutting plane and you're left with the model and the intersected lines. Now all of the geometry that is being cut through has to be deleted. The easiest way to do this is to switch the camera to parallel projection (camera > parallel projection), switch to one of the head on views, such as top down for a plan view, or one of the side views for a section (camera > standard views > top/front/back/etc...), and drag a box around all of the geometry that has to be erased. You may have to zoom in closer to some areas to make sure there aren't any small lines left over.

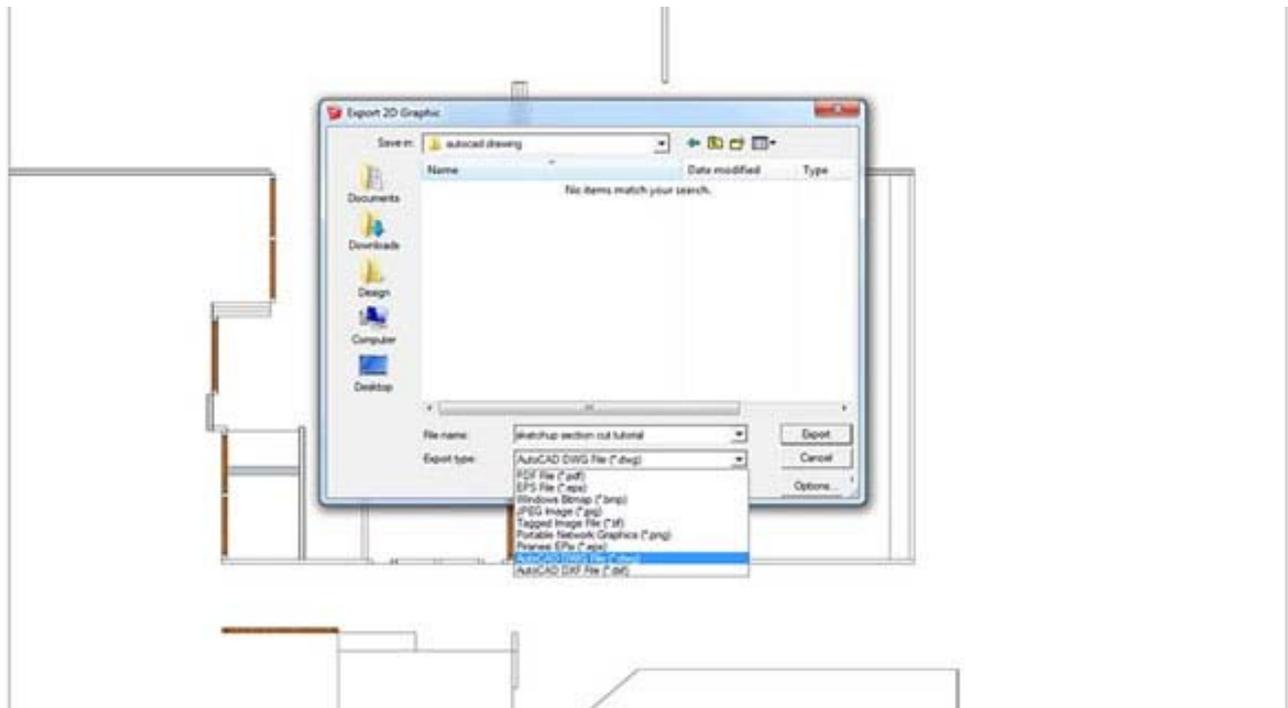


**Tip:** Since this technique is not restricted to just one cutting plane, you can use as many as you want to create stepped-sections (when parts of the model are cut through in different areas). Example here (profile view of a cut of a floor plan)

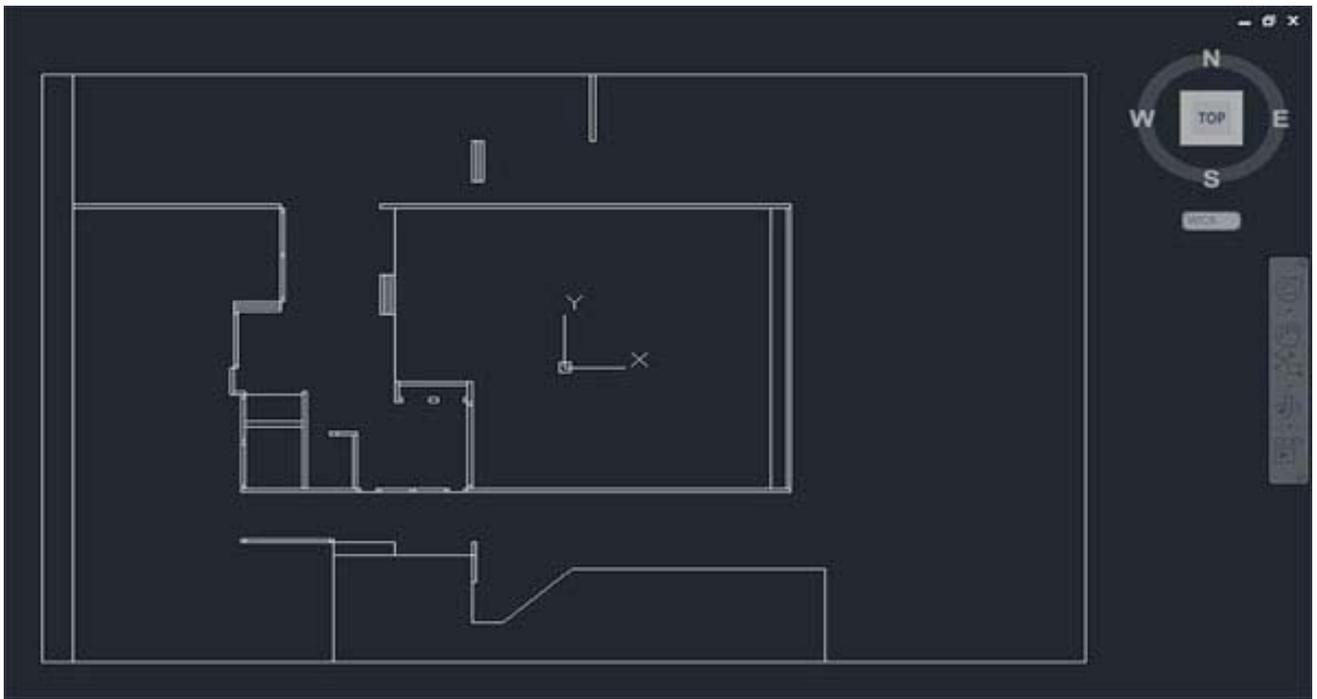
4. Now that the model is cut at the right spot, it's time to export it to AutoCAD. Your view should be set to one that shows the model in a head on orientation, and make sure the camera is set to parallel projection. If the cut is a floor plan, you'd select top down view in the camera menu. If it is a section, you'd switch to one of the side views to get the right angle.



5. Center the model in the view, and then go to file > export > 2d graphic, and select AutoCAD DWG file in the export type drop-down menu. You may have to adjust the AutoCAD version in the options menu depending on which one you have installed. Make sure that the full scale option is checked, assuming you want the scale of the drawing to stay the same when exported.



6. Save and then open up the file in Autocad. You've successfully exported a section or floor plan from your SketchUp model to AutoCAD. You can now adjust the line weights to your heart's content.



## Chaos Group Releases V-Ray 2.0 for Rhino

Popular Renderer for Rhino Gets Major Overhaul Across the Board; Speed, Workflow, Lighting, and Material Improvements; Free for V-Ray 1.5 for Rhino Customers.

Sofia, Bulgaria — Today marks the launch of V-Ray 2.0 for Rhino, the newest update to Chaos Group's high-performance rendering engine for designers. With up to 30x faster V-Ray RT performance, V-Ray Express tools and HDR Light Studio live connection with Light Paint, this release aims to promote creativity and artist-friendly workflows for Rhino users.

Behind every new V-Ray release, you'll find in-depth feedback from artists and designers. V-Ray 2.0 for Rhino is no different. By partnering with the people that use the software the most, Chaos Group's development team has been able to ensure that the intuitive and simplified rendering process they envisioned lines up with the creative control their users want.

"V-Ray for Rhino has been our renderer of choice at Minimal since the day the company was formed," says Dustin Brown, Lead Designer at MNML. "The material system is extremely powerful, lighting is quick and customizable, and network rendering works transparently within our design process, even for still images. It helps us spend more time designing and less time visualizing – and that is exactly what we want."

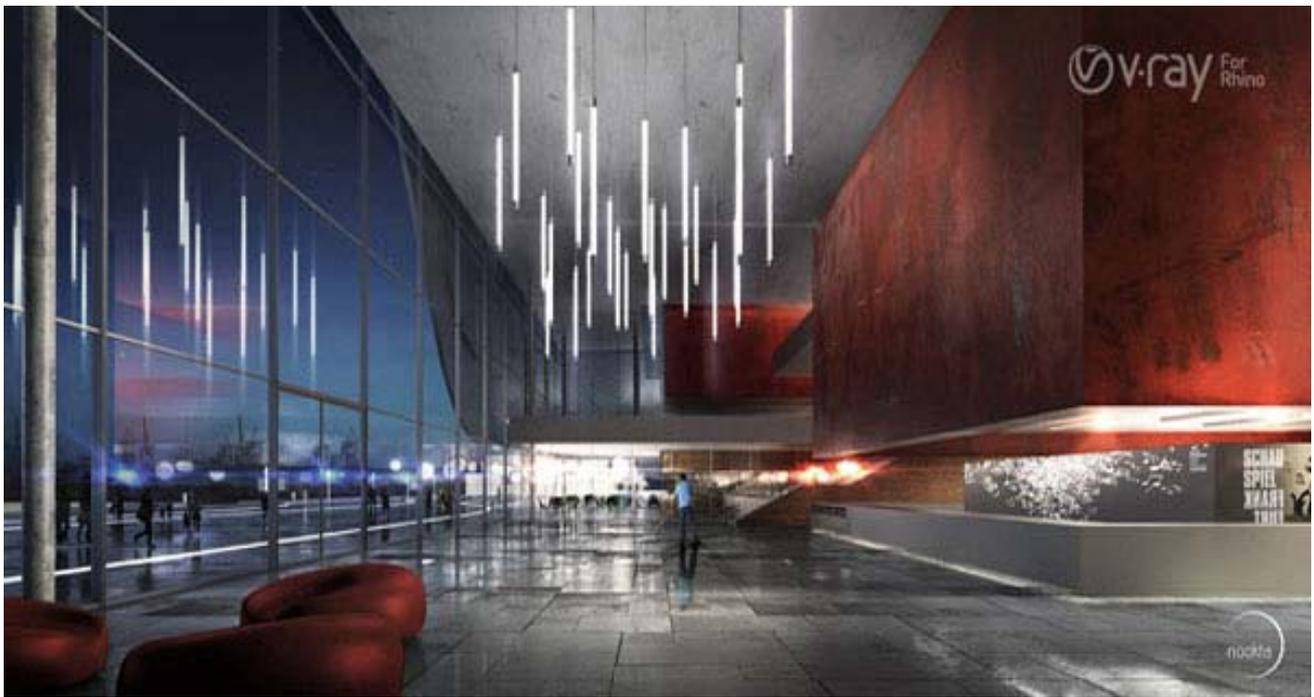
**Big new and improved features in V-Ray 2.0 for Rhino include:**

- V-Ray RT – Interactive responses and a streamlined scene composition with GPU ray tracing up to 30 times faster from directly inside the Rhino viewport.
- V-Ray Material – A brand new compact and optimized material for V-Ray that includes parameters to adjust diffuse, reflection, and refraction.
- V-Ray Express – Users can easily access more than 200 materials and interchangeable lighting setups to create realistic studio scenes and illuminate models faster than ever.
- HDR Light Studio Support – Live connection HDR Light Studio with Light Paint feature accessed directly within Rhino, providing the most intuitive and creative way to light a design.
- For the full list of product features, [click here](#).

"We are very excited that, for the very first time, HDR Light Studio can be accessed from within an actual 3D design environment through the new V-Ray for Rhino live connection," said Mark Segasby, co-founder and CEO of Lightmap Ltd. "Everything you need to bring your vision to life is all in one Rhino scene file now – from your 3D forms to material/finishes to the lighting. It just makes sense."

"Our focus on full integration makes sure our customers never lose precious work hours to inefficiency," says Corey Rubadue, Product Manager at Chaos Group. "Our commitment to the design community is unwavering, and we believe the faster speeds, easy controls and access to content will only accelerate their projects and products."

Chaos Group has also prepared a long list of dedicated resources that will help new V-Ray 2.0 for Rhino users. Those materials include: help documentation, introductory videos, a dedicated forum, and a dedicated product page.



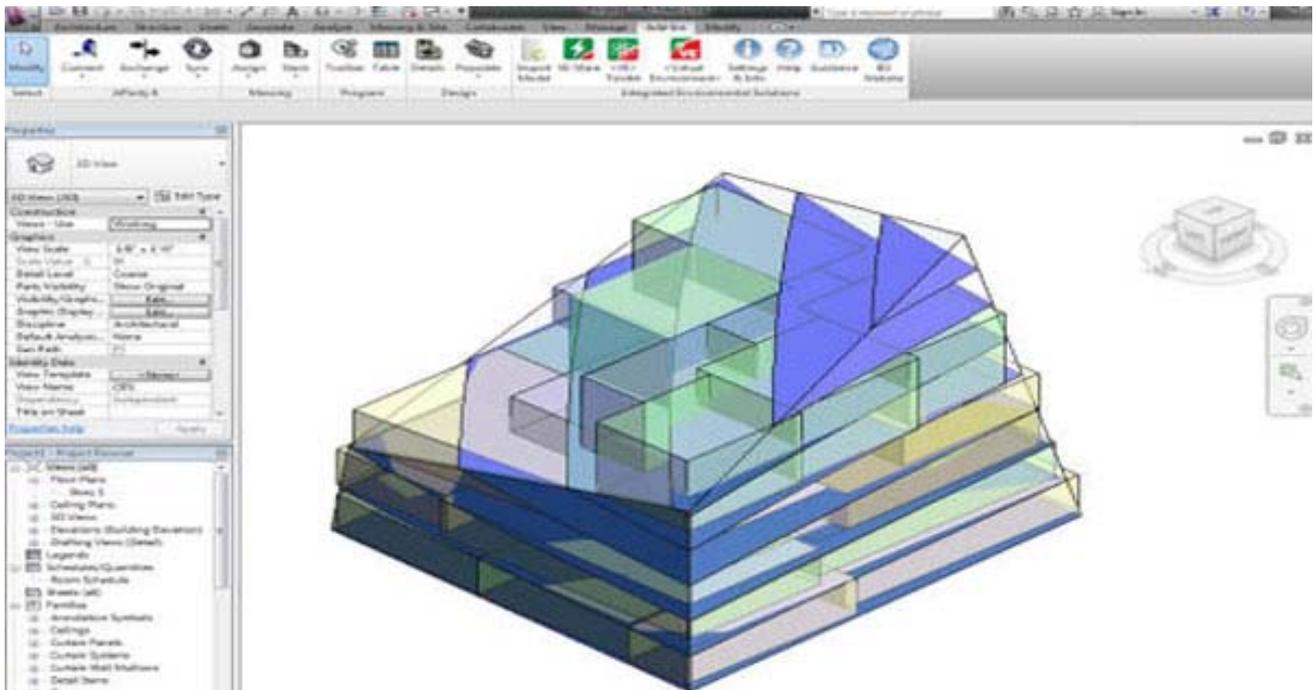
Reference: [www.news.thomasnet.com](http://www.news.thomasnet.com)

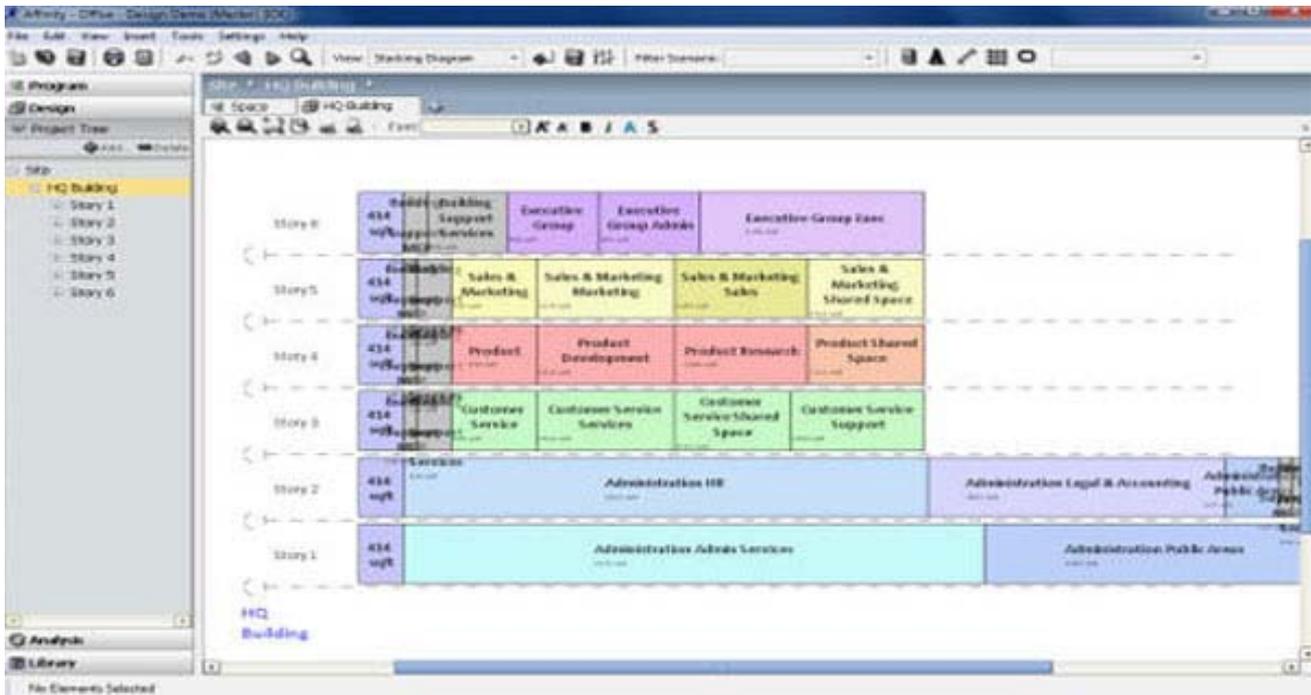
## Trelligence Affinity v8.1 Released for BIM Design

Trelligence, Inc. returned to Autodesk University 2013 with release update of Trelligence Affinity v8.1 functional design software. Trelligence demonstrated the full suite of Affinity 8 functionality throughout the expo at Booth 2003.

Affinity 8 features enhanced bi-directional integration with Revit Architecture, including the ability to run filtered searches of program data properties and view matching items highlighted in Revit. Affinity 8 also includes enhanced integration between Affinity Cloud Bridge and Autodesk 360 for cloud-based storage, collaboration, and views of program data and design concepts. In addition to BIM integration updates, new features include:

- New Stacking Diagram Manipulation- Arrange stories vertically within a building, or drag departments and spaces horizontally within a story.
- Mass Updating/Replacing of Room Contents – Option to adjust room configurations in the program or template and automatically update the corresponding rooms / layouts in the design.
- Customize Wall Thickness Per Room – Assign custom wall thicknesses to specific rooms (e.g. stairwells and specialty spaces).





Reference: [www.tenlinks.com](http://www.tenlinks.com)

## concept3D Releases Commercial Beta of simuwatt Solar

Concept3D has developed simuwatt® Solar to streamline commercial solar sales, design and permitting. The National Renewable Energy Lab (NREL) partnered with concept3D to create simuwatt Solar, a mobile and cloud-based application that incorporates 3D technology for preliminary site design and estimating, shading analysis permitting documentation and bid preparation, all in one application.

While hardware costs of solar are decreasing, soft costs—specifically, the balance of system costs—remain high. Solar soft costs, including site analysis, engineering, permitting, and sales and acquisitions, account for an average of between 52% and 57% of total spending on large and small commercial systems respectively.

With over \$1 million in joint funding from the DOE SunShot Initiative, simuwatt Solar removes barriers to commercial rooftop quoting, design and permitting. It is the first product to streamline the entire process, with an in-app 3D engine, in a single application.

The incorporated 3D design gives installers the power to create a more timely and accurate quote and dynamic visualization. For engineers, the application offers a more precise array assessment, output of one and three-line diagrams, plus automatic creation of AutoCAD and SketchUp files.

Permitting alone can add thousands to the bottom line of each solar installation. simuwatt Solar can decrease permit package preparation time on the municipal level. The application also utilizes the simuwatt Library, an online repository of solar panels, inverters, racks and combiner boxes with product spec sheets and attributes. simuwatt Solar tracks and provides some key documents necessary for installers, engineers, financiers and permit officers.

“We all know balance of systems costs are the final frontier in solar savings, simuwatt Solar saves money through every step of the acquisition process—from sales to engineering to permitting—all in one app,” said Oliver Davis, CEO of concept3D. “After thousands of hours of development, market research and client feedback, we are excited to offer this very rich product for commercial beta.”



Reference: [www.businesswire.com](http://www.businesswire.com)

## 3D Printing in the Classroom - 5 Tips for Bringing New Dimensions

When the New Media Consortium Horizon Project identified the technologies that were expected to have a major impact on STEM+ education in the next several years, its group of education experts around the world identified 3D printing as coming to the forefront in the next two to three years. For some classrooms, that day has already arrived.

As "Technology Outlook: STEM+ Education 2013-2018" stated, 3D printing is relevant in teaching and learning as a way to enable "more authentic exploration of objects that may not be readily available" to teachers and students; it provides a means to let students handle "fragile objects," such as fossils and artifacts that can be fairly quickly prototyped and printed out; and it opens up "new possibilities for learning activities." What the report doesn't say but the students in Christine Mytko's middle grade science class will tell you is that 3D printing also lets kids learn how to endure adversity and persist in solving problems.

For example, there's Cole Compton, who has gone through numerous iterations in his attempt to design and print out an iPad stand. As documented in Mytko's blog entry on the topic, "The Epic iPad Stand Journey," Compton faced challenges in designing his stand (he shifted from SketchUp to Tinkercad), grappled with loose filament feed tubes on the printer (a binder clip eventually saved the day on that), dealt with a build plate that wasn't heating evenly (Compton adjusted the positioning of the model to print in a different position), tackled a spool of filament that kept getting pinched up (the class borrowed a spool coaster from another printer), ran out of black filament hours into the print (Mytko attempted to complete the print with another color of filament, but the transition didn't work), and encountered an uneven printing bed that forced the print job to be canceled yet again.

"There hasn't been a completely successful iPad stand. Something always goes wrong though some of them have come pretty close," Compton noted stoically. Along the way, he added, he has also become accustomed to the fact that sometimes even the best efforts fail.

Mytko, who teaches at Black Pine Circle School, a private school in Berkeley, CA, is a life sciences teacher by training. She started an after-school club to introduce students to the "maker" mentality, applying practical skills to creative invention. That evolved into converting one of her science class days into "Maker Mondays," a double period with a focus on design and creation using programs such as Tinkercad, Makey Makey, and the 3D printers.



Reference: [www.thejournal.com](http://www.thejournal.com)

## Esri's CityEngine eases urban planning mapmaking in 3-D

Geospatial tech leader Esri released an updated version of its CityEngine modeling software that is used to generate three-dimensional designs for planning urban environments.

The software supports decision-making surrounding civic planning and design by making it easier to model architectural plans or changes in urban settings.

The software helps create detailed large-scale 3-D city models with a few clicks of the mouse instead of the work-intensive method of object creation and manual placement, Esri said.

Using a “procedural modeling approach,” which automatically generates maps based on a predefined set of rules, planners can explore how changes in the rules or “grammars” might affect or set up new design possibilities.

The latest version, CityEngine 2013, includes a software developer kit (SDK) that enables developers to use CityEngine to create 3-D urban applications using popular 3-D design applications such as Autodesk Maya, 3ds Max and SketchUp.

The software also has a feature that lets users rapidly import OpenStreetMap data into a project. OpenStreetMap is an open, collaborative project to create a free editable map of the world by gathering mostly free, crowdsourced data.

Another feature in the new version of CityEngine helps developers easily share their work with other users of ArcGIS, Esri's flagship geospatial information system technology.



## Spike smartphone app brings 3D laser modeling to the masses

The technology that goes into laser hardware for surveying and three-dimensional (3D) modeling has traditionally been the plaything of architects, surveyors, and engineers. But now, with a view to expanding into the consumer market, ikeGPS is bringing this laser modeling functionality to the mainstream through its Spike smartphone hardware and software app.

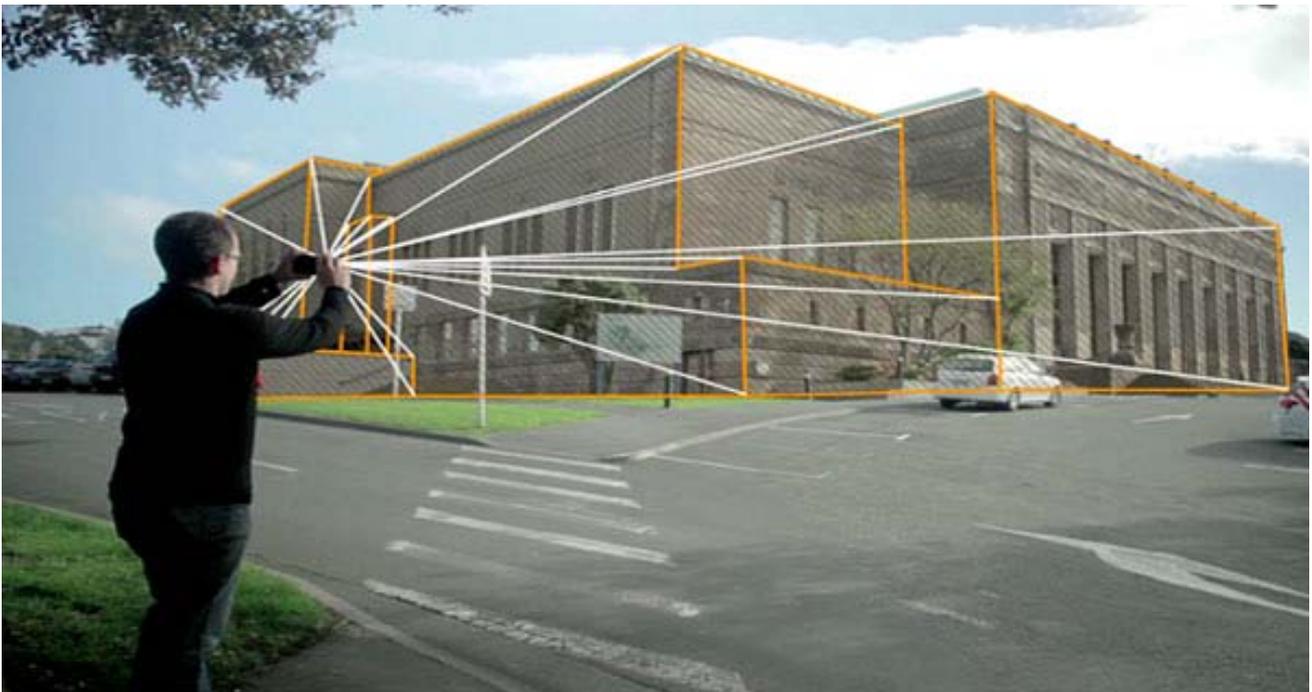
Spike builds on the company's established GIS (geographic information systems) tools, which were used by the UN in the wake of natural disasters such as Hurricane Katrina and the 2010 earthquake in Haiti. The device attaches to the back of a smartphone and combines a built-in laser rangefinder, 3D compass and Bluetooth chip with the phone's camera and GPS. The entire device weighs approximately 100 g (3.5 oz) and measures 90 x 50 x 20 cubic millimeters. The 905 nm, Class 1 eye-safe laser has a range of 2 to 200 m with a resolution of  $\pm 0.2$  m. Spike is powered by an internal Li-ion cell battery recharged via a Micro USB connector, with each charge lasting two days of typical use, according to the company.

Users take a photo of the object they wish to measure through the Spike companion app on their smartphone (the team has nearly completed an Android app and has an iOS app in development). The hardware then measures key metrics, such as distance, direction, and volume and communicates this data to the smartphone via Bluetooth, displaying the augmented results on the screen. Users can then share this data, or use it to produce 3D models with what the company says is laser accuracy.

According to its Kickstarter campaign page at <http://www.kickstarter.com/projects/ikegps/spike-laser-accurate-measurement-and-modelling-on>, the company will allow third-party app developers access to an API (application programming interface), enabling the embedding of specialist ikeTools into applications in anticipation of augmented reality and location-based services apps.

Spike is also compatible with 3D modeling software SketchUp. This means that rather than importing measurements manually, users can take an image with Spike to reproduce a scalable model of the object or building and 3D print it as required.

Spike can be pre-ordered on the ikeGPS website for \$559 with shipping (included) and is estimated to be available in May 2014.



## Formlabs releases PreForm 1.0 and begins accepting Bitcoin payments

Currently 3D printing isn't nearly as easy or as fun as it needs to be in order to catch on, but Formlabs is trying to change that. At CES 2014, the company released PreForm 1.0, an updated and simplified version of its beta software that's been available for its Form 1 3D printer.

Aside from getting a complete UI overhaul, PreForm 1.0 now supports OBJ files, letting users take SketchUp models and make them 3D-printer ready. They've also added "quick release tabs," which make it much easier and faster for you to remove models from the printer when they're finished.

These updates are all working toward Formlabs' ultimate goal of making 3D printing software almost obsolete. Eventually Formlabs wants to create "1-click 3D printing," which would make printing a 3D model as easy as printing a 2D photo. It's a huge goal because currently 3D printing hardware and software is not necessarily easily understood by consumers, and the company is taking steps to make it easier.

Formlabs is also trying to ease the blow of paying \$3,299 for its Form 1 printer by accepting Bitcoin payments at its online store. It's certainly a nice touch even if it is a predictable one, as all kinds of companies start accepting the digital currency, but it's another step toward the company's larger goal of making 3D printing something consumers want to do, and more importantly, something consumers feel like they should be a part of.



## Magazine Details – The Creative team of Sketchup-ur-Space

Started in September 2010, Sketchup ur Space (SuS) was the first online magazine devoted to SketchUp, that unique, innovative 3D design tool from Google. It holistically covers features, events, news, updates, reviews and many tips and tricks.



**Rajib Dey:** [rajib@sketchup-ur-space.com](mailto:rajib@sketchup-ur-space.com)

Rajib, the editor-in-chief of SketchUp ur Space magazine is the main writer. He is responsible to write the cover story, blog and many other columns. Along with it, He is creating a liaison between the writers and the readers.



**Manoj Kumar Singh:** [manoj@jobs2india.com](mailto:manoj@jobs2india.com)

Manoj is enthusiastic helps to put the content of the SketchUp up Space magazine in the html version. Manoj is the html developer who beautifully creates each and every edition with care along with the PDF version.



**Abhishek Mondal:** [abhishek@jobs2india.com](mailto:abhishek@jobs2india.com)

Abhishek is the designer-in-chief of this magazine with the help of his creativity Sketchup ur Space has gotten a classy as well as trendy look...