

Importing and exporting in SketchUp Shop

COVER STORY 2018

\*Editor\*
SUBHRA BERA\*

\*\*HAPPY\*
NEW YEAR 2019

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#### **COVER STORY**

## Importing and exporting in SketchUp Shop

SketchUp Shop is a free version of SketchUp Pro that has some basic useful tools just as the paid version SketchUp Pro has, SketchUp Shop has come with import and export option.

Aaron Dietzen this time comes with his new useful creation of importing and exporting via SketchUp Shop which is the newest thing for SketchUp users. This article will describe the whole process according to Aaron but first of all we are going to give some information about SketchUp Shop as it is not familiar to most of the users.

**About Aaron Dietzen:** Aaron Dietzen is mainly seen in various SketchUp Live or any of the Skill Builder videos or been on the SketchUp forum, that means Aaron is fond of SketchUp and serving as a SketchUp employee for two years with more than ten years in the software. He is more than just a simple Trimble employee; he is a true SketchUp fan. He spends his free time in designing things in SketchUp and loves adventurous works.

**About SketchUp Shop:** SketchUp Shop is an incredibly useful tool for the people who don't want the total functionality or can't afford the full version of SketchUp of SketchUp pro. So it comes with the basic toolset while a little different from the original in SketchUp Pro but it is pretty easy to control.

It is the similar web version of SketchUp what is used by the users regularly, if the users have an active subscription then they will be able to access to a couple of valuable new tools earlier only can be get in SketchUp Pro that is generally need to install on the system.

Things can get through SketchUp Shop:

- Users can explore lots of ideas in 3D quickly and easily without having the full version of SketchUp Pro.
- Users can create their project in 3D before their trip to the hardware store.
- Moreover that, users can builds awesome, realistic models and can share them with friends and project partners.
- Before making the final project, users can have a blast designing and planning those projects as a review.

This is not the original process; users can have some works using SketchUp Shop but will face some problems while using the advanced tools as it will only work in the paid version. Like importing or exporting an image or file or printing a picture of the model in SketchUp Shop is not possible without the File menu and it is not there in SketchUp Shop; that's why Aaron has come up with his video tutorial for the users. Here are the details of that video tutorial that will help to understand the process easily:

In the tutorial, Aaron has worked on importing an image at first in SketchUp through his one model; in SketchUp Shop there he goes to the 'Folder' icon and click the 'Insert' option from the drop-down menu. After clicking on the menu a pop-up will appear where users can insert a file through left-click and choose a file from computer or can import form that pop-up directly. In that pop-up, there is a



Computer icon that allows importing file form computer; clicking on it on can choose any file which will later asks for two options wither to import it as an image or a material. By choosing the image option, the texture will appear as an image but can't be applied on the model, but choosing material the texture will come as a material to be used in the model. After applying the material according to the model, users can put colors or modify the model as per their choice and then finally save the model.

For export, clicking on the same folder icon will give the option 'Export', here users can export the model in any version like .png or .jpg or any other but those can be only done in the paid version for free version, .png version is available. After clicking on the .png, a pop-up will appear and ask for the accurate size, by putting size the model will exported in that size; next it's the time to print the model, by clicking on the File menu users will get the Print option. Clicking on it the print pop-up will appear, here the model will appear and can be sent to the printer directly.

About SketchUp: SketchUp or Google SketchUp is mainly a 3D modeling computer program that is used for a broad range of drawing applications used by architects, interior designer, landscape architects, civil and mechanical engineers, film and video game designers also. SketchUp can be getting as a freeware version named SketchUp Make and a paid version with many more extra benefits called SketchUp Pro. SketchUp is software from Trimble Company and there is an online library of free model congregations and 3D Warehouse to which users can add other models; besides that, the program has drawing layout functionality with variable 'styles', supports third-party 'plug-in' programs hosted on the Extension Warehouse to supply other abilities and enables placement of its models in Google Earth.

As SketchUp users are most of architects, designers, builders, makers and engineers etc. who works hard to give a nice shape to our physical world, they need great tools to do the work. SketchUp is in mission to bring their best to produce some great tools for drawing as drawing is the key thing of the SketchUp users. They draw to search ideas, to identify the things and to show other people their work that they do with love and love to build; SketchUp understands it truly and trying to improve their software day by day.

If you have any queries concerning publication, subscription, troubles navigating the site, please mail us at mailto:subhra@jobs2india.com



Best Wishes
Subhra Bera
Editor



### **EDITOR'S DESK**

## **4** A Letter to the desk of the Editor" to "Letter from Editor's Desk"

**Subhra Bera: Editor** 

Hola readers, the winter season has arrived and New Year is knocking at the door; so it is the exact time to sit, relax and read about some wonderful new news about SketchUp.

According to the both Julian and Gregorian calendars, December month is the final and twelfth month of the year. In Northern Hemisphere, this last month is the signal of full beginning of the cold winter season. As the end month of the year, this month is full with Holidays and parties where people get together with family and friends to celebrate all that they got throughout the year by the blessing of the God.

December replicates the time of reflect and repose; it is the month to make realistic New Year's resolutions and wonderful plans for the upcoming year. SketchUp-Ur-Space team is wishing all our readers advance Merry Christmas and Happy New Year; we are here again to give you all some new news and tricks about SketchUp.

Our Magazine, SketchUp-Ur-Space never delays to deliver the latest news, tips and many more unique things about SketchUp for our valuable readers and our December edition is full of them. It has some trendy and exciting news for our eagerly waiting readers.

SketchUp-Ur-Space is a well known and lovable magazine that consists with some useful news and data for the beginner and experienced SketchUp users, designers, architects etc. Our magazine's editorial team always wants to give our readers new and interesting stories, news, blogs and many more other things to enhance the knowledge and skills. This December edition has come up with the same motto and various unknown surprising facts on 3D designing that will surely amaze you.

At first, the cover story of our magazine is about SketchUp Shop and the way of importing and exporting some tricks in it. Famous SketchUp professional Aaron Dietzen has revealed his new idea.

Next is the Article page having 4 different posts written by our editorial team that depicts about using components and a close look about some different tools and plugins in SketchUp. The first article is about the detailed news of Philadelphia Flower Show; the second article is about the success story of SketchUp for Woodworkers. The third and fourth article says about two new tools- Compo Sprayr and the Component Finder.

The blog section has come with some detailed description of new ways of working. The first one describes the experience of Alejandro Soriano with SketchUp. Second one will describe how users can hide some unusual things in SketchUp; while the third one will tell the function of Follow Me Tool. The four articles describe method of Quantities and Cost Estimation by Quantifier Pro tool.

Tips and Tricks is full of new features this time; first one describes 10 new ideas about the Push/Pull tool; Second one is about some House Modeling extensions. Third one describes the way of modeling SketchUp Frame and Skin Structure; last Trick is the idea of Thom Thom who found the Truebend tool. Last but not the least, the news section is full of new Tools of SketchUp; First news describes about new SketchUp's Advanced Camera Tools; second one describes the work of Skill Builder tool to do building section animations. SketchFX tool works on SketchUp models and inspects about some extensions; woodworkers made a Serpentine shaped drawer this time in SketchUp.



Too much there for our readers, hope this edition also pleasures you as the previous ones, so enjoy your holiday with our December edition. So it seems that this edition has published very effective sides of SketchUp and gives some new and interesting news also. Hope readers will enjoy this edition and discover some new side of 3D design.

#### **ARTICLE**

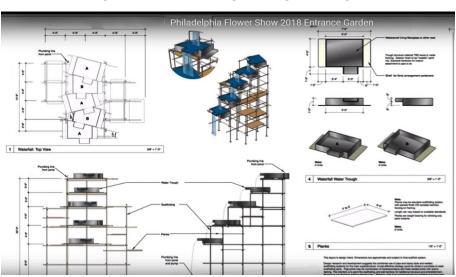
#### **♣** SketchUp: Excellent grow for the Philadelphia Flower Show

The Philadelphia Flower Show has been happening from 1829 and has become the number one show in the entire Philadelphia where SketchUp user Dan and Gary arrange everything.

One hundred and eighty-nine years is a long time for anything to run continuously but there are some things like gardens that get better and better with time, become more attractive and gorgeous day by day. The Philadelphia Flower Show has been long time a dignity for its city and its larger community; it is a big summit for all the plant admirers from all over the country flock to Philly to know more about the newest and greatest in the gardening world every year.

**About the Philadelphia Flower Show:** The Philadelphia Flower Show welcomes everyone to their awesome flower show which is a mesmerizing world of wonderful gardening and design that has started

back to 1829. Since then. this event has become very popular and special for so many reasons also become number one on the list; it is also because it happens at a time of year when people desire for color and beauty from this garden. This exact scenic beauty and pleasant memory perfectly delivered by this Flower Show; people love it so much that they continued their support



through funding of many greening programs and ornamentation across Philadelphia. The next year for the 2019 Philadelphia Flower Show the theme will be Flower Power and will held on March 2-10.

**Dan/Daniel Brown:** He is a regular SketchUp user and has been working as a SketchUp trainer since the year 2007. He has worked as a SketchUp Trainer for Google in previous time to start db-3D and Trainer; he also taught SketchUp all around the world to hundreds of designers. Dan also gives a 2 day live



training course in Boston, New York City, Philadelphia and Washington DC in every 10 weeks as well as provides a monthly online course.

**Gary Radin:** He is the Principal Designer of GMR Design and over twenty years, he has been expanding and controlling the way people experience their environment. This work includes specialization in production design, art direction, interior design, theater and graphics and there are hundreds of creative solutions for television commercials, cable network shows, corporate meeting and video sets, exhibits, live event staging and interiors. He is currently engaged with GMR Design LLC as a Production Designer and Owner; it is basically a Philadelphia based design studio which is specialized in set design and art direction for television and live events.

SketchUp or Google SketchUp is mainly a3D modeling computer program that is used for a broad range of drawing applications used by architects, interior designer, landscape architects, civil and mechanical engineers, film and video game designers also. SketchUp can be getting as a freeware version named SketchUp Make and a paid version with many more extra benefits called SketchUp Pro. SketchUp is software from Trimble Company and there is an online library of free model congregations and 3D Warehouse to which users can add other models; besides that, the program has drawing layout functionality with variable 'styles', supports third-party 'plug-in' programs hosted on the Extension Warehouse to supply other abilities and enables placement of its models in Google Earth.

#### SketchUp Success for Woodworkers

David Heim, a SketchUp user and known book and magazine editor specializing in woodworking has been using SketchUp for a long time and moved to Fine Woodworking Magazine.

**About David Heim:** David Heim is an experienced book and magazine editor specializing in wood working; previously he worked at Consumer Reports for 28 years and now he has been working with Fine Woodworking magazine. David generally writes about SketchUp and also gives training on SketchUp for over four years and all his projects are made in SketchUp. He has been using, teaching and writing about SketchUp since 2007 and he also has edited three books and produced more than 400 furniture models for the 3D Warehouse.

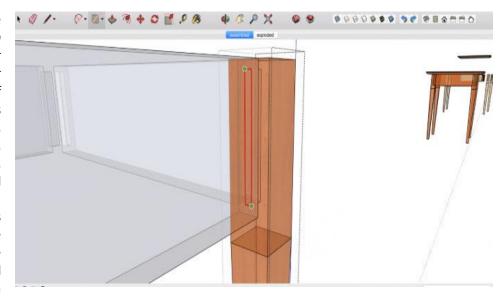
As an example while making a small occasional table with tapered legs which will connect to stretchers with mortise-and-tenon joints, first step is defining the modeling order like the legs are made first. Next the stretcher has to make and these stretcher has to be placed between the legs of the table; then just add tenons at the ends of those stretchers that will make the model ready for next modeling sequence.

The above process is for SketchUp modeling, while making them in the shop or in reality, one has to follow the steps in a way that will give the model its right figure. Like at first a mortise has to make and then the tenons will cut in size to fit in it, next start with one leg component to edit and zooming in for a detail view f the top area where the stretcher touches the legs. Now it is the time to draw another portion in SketchUp again, X-ray mode is put on again to view tenon through the fixed leg, now the Line or Rectangle tools are used to trace over the base of the tenon to produce similar area on the leg. Next the Push/Pull tool is used to push the area to the end of the tenon; the similar process will follow in the second mortise.



Now the structure of the table is completed so it is the time to fix he top with the bottom parts, the rectangle tool is used to draw a rectangle in place right over the top of the legs. Then the Offset toll is used to enlarge the rectangle for the needed overhang, after that the original rectangle is removed to give the top its thickness and turn into a component.

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#### Random Component placement in SketchUp with Compo Sprayr

SketchUp Plugins are very much helpful and useful in creating models; the new Compo Spray has lots of options which make the placing of components in a model easier.

**Introduction of Justin Geis:** Justin Geis is the founder of The SketchUp Essentials and he has started to use SketchUp as a part of his daily works as a general contractor in 2008. Since then he is a proud SketchUp user as he has realized very quickly about the power of SketchUp in various works and started to use it for his personal projects also. The idea of starting the SketchUp Essentials is like making a place to share some easy to follow SketchUp tips and tricks and tutorials which will help the users to control the power of 3D Modeling in their lives.

Justin Geis has blogged about different SketchUp tips and tutorials, in this article we will discuss about his another tutorials through a video, how to use Compo Spray. Compo Spray is a SketchUp extension which is designed to help people randomly to place components with the SketchUp model and here are some details about using it.

Plugin Name: Compo Spray

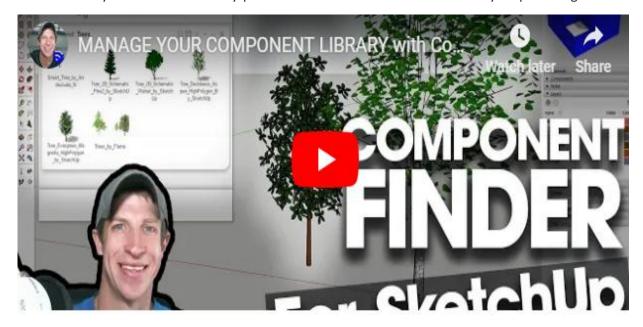


Didier Bur: Tool cost is free

**Download place:** the SketchUp extension warehouse:

#### https://sketchucation.com/pluginstore?pln=compoSpray

Functions of tool: This extension is mainly designed to help users in adding the components faster in the models such as trees, rocks etc. besides this, it help to randomly spread these objects. This extension will allow users in many ways to aimlessly spread components on faces within SketchUp; in the menu the first option works most though there is other option like perpendicular which is not working recently. The plugin allows the users to select up to 8 components at once with the help of dropdowns, after that they will be automatically placed on a selected face. There is a very helpful thing which is a



documentation file that gets installed in the plugin installation folder with some instructions for the users. Here are some tips to work with this plugin after starting it:

- Users can select a same component many times again and again after selecting components; it is useful as while working with a component multiple times in a model, users can select it as many times as they want.
- They will get two kinds of spray options as per the face is selected or not while starting the tool
  and after selecting a face, one will get the option to place objects based on the corners and
  faces. But if any face is not selected, then users can get a series of options for point, line,
  triangle etc.
- These options like point, line, triangle and other shape options allow the users to set a routine location for users component spray depended on a location you dictate. These components can be used to place objects on terrain and other faces that are not actually flat.
- Whenever the users have selected either a face or a series of faces, they can spread objects aimlessly across the faces by selecting "Selected faces," or with the vertices of the geometry using "Vertices of faces."
- The pressure percentage is for adjusting the numbers of the created objects.



- Users can also command the layer that the components are made on.
- The altitude setting allows fixing components between various heights into the model.
- Slope option allows to only placing objects on face that are at a selected slope.
- Scale option allows the users to displace the sizes of the different components.
- Besides the above options, there are also a series of options below which allow the things like reflecting objects, checking impact and many more.
- This extension actually works as it is spraying components downward.

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#### Managing Component Library with Component Finder

Component Finder is a new extension that can easily manage users' component libraries and help them to place them on the hard drive to manage all the information well.

Justin Geis: Justin Geis is the founder of The SketchUp Essentials and started using SketchUp while he was working as a general contractor in 2008 and after using it he found that SketchUp is extremely powerful that he just started to use it in his personal works also. Then he started The SketchUp Essentials as a place where he could share his ideas of using SketchUp easily through some tutorials and tips to help other users controlling the power of 3D modeling in everyday lives.

In this article we are going to discuss about an extension from the folks over at Flex Tools to manage any SketchUp component model collections on the computer.

Component Finder Functions: This extension is designed in a way that will help users to organize and manage their component library on their hard drive. It is seen that many people have started modifying a library of components that they use across various different models but they really haven't found any extension that seriously can help them guiding those libraries. The Component Finder Functions will help them to arrange and manage those components in a right order.

The working way of this component is simple, at first the extension has to be downloaded from the Flex Tools website by clicking the download button and putting a value that users are willing to pay for the extension. But they want to download the free version, one has to simply type in \$0 and click the "I want



this" title button. Clicking this button allow the users to download the extension file for installation. After installing the extension, it will show up as a toolbar within the model; having a license for the Flex Tools the toolbar will be seen longer but the magnifying glass icon will open up the Component Finder Window.

- The Component Finder allows users to add various folders to the list which can be controlled and searched within. The first folder can be added by clicking within the window and controlling the folder need to add and then click the option, "Select Folder". After clicking the option, it will help users to add the folder to their list.
- There are two navigation models within Component Finder; one is flat view that allows users to view all the components within a folder indifferent of subfolder. The other one is Nav view which allows users to browse the folder structure within a folder.
- Users also can able to add many different folders by simply clicking the folder at the top of the page and adding the new location.
- There is also a search bar that helps users to search specific keywords within any open folders.
- The magnifying glass icon allows users to create their preview files larger or smaller within their folder list.
- When the users click on the little hard drive button, it will open up the location of the selected folder on the hard drive.
- Users can save a selected component to a folder by simply selecting it in their model and then need to click the plus button to save it to a location of their choice.
- The up and down buttons help the users to adjust the layout of their different folders.
- The minus button helps to minimize the folder previews to adjust the folder names.
- To delete or remove a folder just click the "x" button to remove it from the list.
- Users can access other options by right click on the objects within the folders and there they can do many things like opening the containing folder as a separate tab, renaming files, replacing files and updating them out of the models and deleting objects.

#### **NEWS**

### SketchUp's Advanced Camera Tools

SketchUp's Advanced Camera Tools is an amazing extension that is used from loose storyboarding to advanced shot analysis in the planning time of any film, video or photography.

**About SketchUp:** SketchUp or Google SketchUp is mainly a3D modeling computer program that is used for a broad range of drawing applications used by architects, interior designer, landscape architects, civil and mechanical engineers, film and video game designers also. SketchUp can be getting as a freeware



version named SketchUp Make and a paid version with many more extra benefits called SketchUp Pro. SketchUp is software from Trimble Company and there is an online library of free model congregations and 3D Warehouse to which users can add other models; besides that, the program has drawing layout functionality with variable 'styles', supports third-party 'plug-in' programs hosted on the Extension Warehouse to supply other abilities and enables placement of its models in Google Earth. As SketchUp users are most of architects, designers, builders, makers and engineers etc. who works hard to give a nice shape to our physical world, they need great tools to do the work. SketchUp is in mission to bring their best to produce some great tools for drawing as drawing is the key thing of the SketchUp users. They draw to search ideas, to identify the things and to show other people their work that they do with love and love to build; SketchUp understands it truly and trying to improve their software day by day.

In this article we are going to discuss about Advanced Camera Tools in SketchUp through Geis's tutorials and here are some information about this tools.

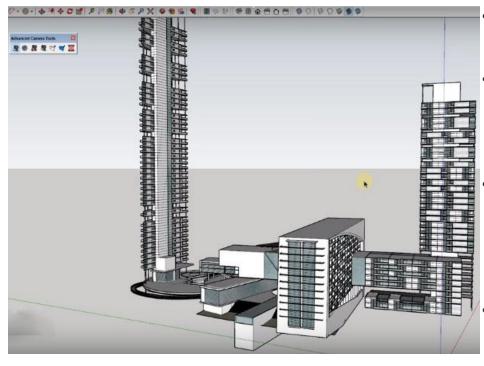
The Advanced Camera Tools: The Advanced Camera Tools or Act are mainly designed for those people who work in the film and television industry and use SketchUp Pro to build up some storyboards, design sets, visualize scenes and plan locations. They use Advanced Camera Tools for placing real-world cameras in their SketchUp models and preview the real camera shots but this extension needs an active SketchUp Pro license. The Advanced Camera Tools plugin is now used for Google SketchUp Pro 8 where users can create optically and physically modeled professional cameras that can be designed and manipulated similarly as used in the real world. Cameras created by the users with the Advances Camera Tools will provide precise controls for properties such as, Focal Length, Aspect Ratio and Image Width while allows them to accurately model and preview real camera shots inside any model they are working with.

There is a clearly complete help file which is linked within the SketchUp extension warehouse page for the Advanced Camera Tools and this extension was created to provide a tool for visualizing various shots in Video and TV work, but besides that it can also be used to make much more accurate cameras and cameras with pitch and roll. People who want to mimic an original physical camera can access the various kinds by back to back tools, advanced camera tools and choosing an actual camera type which will give them access to many different camera types. But if it is not a worry to work with an actual physical camera type, one can add a camera by simple clicking on the first button on the advanced camera tools toolbar. This helps the person to set their view into view editing mode, for more hidden information one can find them in the lower left hand on his/her screen. While clicking and dragging the mouse button, information about the particular view like the height and angle will be recorded in the information in the lower left corner. More than that, users can also adjusts the pan, angle, height and many other things about the camera view with some instructions at the bottom of the screen.

After having a real camera view set as per needs one can right click on it to active the "Lock Camera" option, it will instantly lock the camera view to prevent the accidental changes and it will create an original physical camera reference point in the 3D space. Users are able to turn on the camera frustum lines and volumes to view a physical indicator of the view of the camera, when users want to unlock the feature they need to simply click on the button for "Look through a camera created by create camera", then right click and select "unlock camera". While the "edit camera" option helps to edit aspects of the camera by right clicking on it.

Features of the Advanced Camera Tools: So basically this tool can do things like





Adding any number of physical cameras to the users' model.

- One can uses this tool to choose from dozens of preformed camera types or can create own.
- Advanced Camera tools are placed and aimed using some known moves like Pan, Angle, and Dolly etc.
- Focal length of any camera is set to simulate a large

number of physical lenses.

- Advanced Camera tools frustums are toggled on and off to see easily everything.
- Properties of the Advanced Camera tools' camera can be edited in the model any time.

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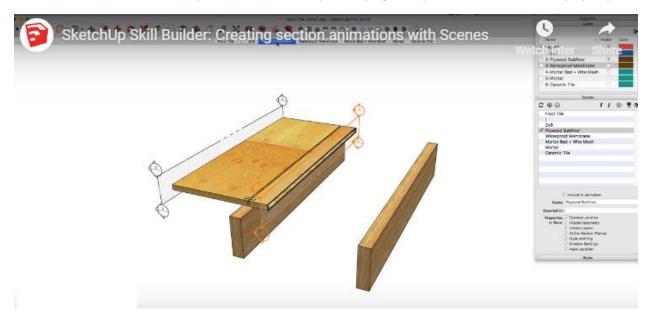
#### SketchUp Skill Builder: building section animations with Scenes

SketchUp Skill Builder is used to support each other in a friendly way while building up the SketchUp skills and Josh Reilly has shown the method of building section animations.

About SketchUp: SketchUp or Google SketchUp is mainly a3D modeling computer program that is used for a broad range of drawing applications used by architects, interior designer, landscape architects, civil and mechanical engineers, film and video game designers also. SketchUp can be getting as a freeware version named SketchUp Make and a paid version with many more extra benefits called SketchUp Pro. SketchUp is software from Trimble Company and there is an online library of free model congregations and 3D Warehouse to which users can add other models; besides that, the program has drawing layout functionality with variable 'styles', supports third-party 'plug-in' programs hosted on the Extension Warehouse to supply other abilities and enables placement of its models in Google Earth. As SketchUp users are most of architects, designers, builders, makers and engineers etc. who works hard to give a



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SketchUp Skill Builder: SketchUp Skill Builder has come up with the idea of releasing a video with a challenge and/or tip-and-trick to try by the users, these challenges will rank form beginner to advanced and each Skill Builder will have their own string which can be found under the 'Tutorials' class. The vision is for supporting each other in a friendly way while building up the SketchUp skills and it is a platform to transfer ideas, alternative methods for any given exercise or to ask questions on the specific string of the Skill Builder it relates to. While designing a beautiful room sometimes users face problems while making it more beautiful and turning it a full proof building design but they can't make any wall or ceiling; now it will be easier by using Transparent Materials.

This time SketchUp Skill Builder comes up with its new feature- Scene transitions in conjunction with Section Planes. Section Planes are used in SketchUp to create animations in active section cuts for hiding and showing geometry. Sections planes cut a model in SketchUp along a plane so that the modelers can look inside the model without moving or hiding any geometry. More than that, in a 3D model, an active section plane covers everything on one side of the plane it is described here through an example.

If we draw two layers of section planes and want to work on them, it is not necessary to delete or hide any one of them, but the fun is that they can be worked as a group or component.

In the layers of section planes, if we click on them we can see that there is a group of section planes and each one of them has a section plane inside of them. The layers can be named also for better work, layers can be turned on or off by a single click only and before adding section plane on the layers one should make sure that the objects should be in the correct way.

To add a section plane inside group one can click the left button on the image and add it; moving the section planes in SketchUp is easy it's like moving it like any other geometry by using the move tool.



There are many applications in Section planes for any section animation technique that could be used to make it more effective and to add a finishing touch also. Follow the link for the detail variation:

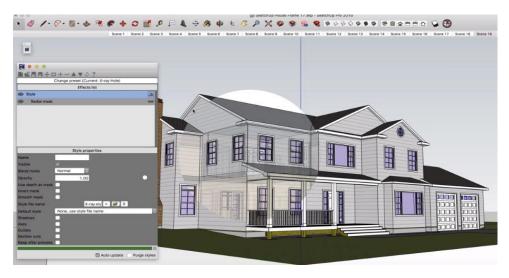
Users can pair up Section planes along with their own SketchUp model or can download one from the 3DWarehouse which will have some added animation action. But the project has to be set up with Scenes and Layers similar in this video and while upgrading, users can find many advanced techniques to use.

#### Extension Inspection: SketchFX

Component Finder is a new extension that can easily manage users' component libraries and help them to place them on the hard drive to manage all the information well.

Aaron Dietzen is a passionate designer in SketchUp who has done many videos in SketchUp Live about SketchUp Skill Builder and made many video tutorials to describe them.

About Aaron Dietzen: Aaron Dietzen is mainly seen in various SketchUp Live or any of the Skill Builder videos or been on the SketchUp forum, that means Aaron is fond of SketchUp and serving as a SketchUp employee for two years with more than ten years in the software. He is more than just a simple Trimble employee; he is a true SketchUp fan. He spends his free time in designing things in SketchUp and loves adventurous works.



Aaron has shared various designing ideas and important tips to utilize various features of SketchUp, in this article we are going to discuss about a method new using Styles with SketchFX..

SketchFX: It applies a of visual series

effects one after another in a bottom down order and it has three types of effects:

- Image: SketchFX can generate an image from various sources like file, SketchUp scene, a particular style or may be a constant color and images can be affected by child effects.
- Filter: SketchFX can modify an image with its particular properties and it can be an image child or can affect all the above effects
- Mask: SketchFX hides or views only some areas of an image.



Styles is a wonderful method to modify the look of every model but it is not enough every time as sometime more than the simple thing is needed and here SketchFX from Fluid woks where people can take styles to a new level and can get further processing graphics right out of SketchUp. SketchFX gives control to the users over a total heap of effects that can be layered on their SketchUp model and also allows them to create visuals that would easily need them to arouse their favorite photo editing software.

Types of SketchFX: SketchFX has two different flavors, one is SketchFX Pro and another is SketchFX EX, here is some information about them below-

- SketchFX Pro: SketchFX Pro is a faster visualization plugin for SketchUp and it is simple to learn.
   It can be learnt in just one click; with a click users can create visually powerful illustrations of 3d models, choosing a range of many artistic styles.
- SketchFX EX: SketchFx EX has all the features of SketchFX Pro and adds support of rendering animations.

While starting SketchFX, one can find a single button that will help to apply all the default effect and will show the window where all the additional features of SketchFX will be founded. There are a set of pre made drawings or styles to apply on the models like pencil sketches, coloring effects etc. and while applying any of the effects the work of SketchFX will get started. After applying effect there will open a box with changeable effects like any other photo editing tool where some options to change the modeling effects are (like blur, adjusting saturation and brightness, putting light etc.) used on the image to give it a new look.

The difference of SketchFX with other photo editing software is that it includes some combined effects that help to give a neat look in the model and more than that, each of these items in the list can be individually on and off to put effects. The items have more individual actions in their drop down options which can be named later and each individual will put an effect on the model, it is a fun thing to do. People can also apply various effects in a time and all of them will show clearly on the model without any mess which is a huge progress of this software. It also helps to show some details of mechanic drawings, though SketchFX misses some extra details but also adds some other information in the model which can't be found anywhere. SketchFX is an easier way to show and change different details of a model.

About SketchUp: SketchUp or Google SketchUp is mainly a 3D modeling computer program that is used for a broad range of drawing applications used by architects, interior designer, landscape architects, civil and mechanical engineers, film and video game designers also. SketchUp can be getting as a freeware version named SketchUp Make and a paid version with many more extra benefits called SketchUp Pro. SketchUp is software from Trimble Company and there is an online library of free model congregations and 3D Warehouse to which users can add other models; besides that, the program has drawing layout functionality with variable 'styles', supports third-party 'plug-in' programs hosted on the Extension Warehouse to supply other abilities and enables placement of its models in Google Earth.

As SketchUp users are most of architects, designers, builders, makers and engineers etc. who works hard to give a nice shape to our physical world, they need great tools to do the work. SketchUp is in mission to bring their best to produce some great tools for drawing as drawing is the key thing of the SketchUp users. They draw to search ideas, to identify the things and to show other people their work that they do



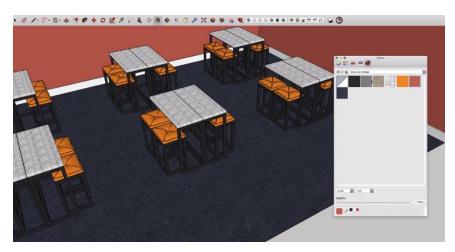
with love and love to build; SketchUp understands it truly and trying to improve their software day by day.

#### **★** Effecting a Serpentine shaped drawer in SketchUp

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SketchUp makes easier to change the color of a face and here are the easy steps described: just need to click the Paint Bucket tool, choose the color need to use and click to paint the face. But it is little difficult to change the color of a material like putting the coloring things in a model such as blue gate, green grass and trees, yellow stairs etc. Previously changing the material color follows a long process where users at first have to double click on an existing material, and then edit it in an external editor; in this external editor people can use any preferred tool to change the shadow, contrast or saturation. At last, users have to save as a new image and then have to import it into SketchUp, so it is a time taking process indeed, that's why SketchUp has come with a new material setting in the SketchUp color window and the process need to learn well.



Material Modification SketchUp: Aaron can simply change the color of the walls of any model by the paint bucket tool, picking a color from the color window and put it on the wall or the thing need to be colored but it is easier while changing basic existing colors that are in the window. changing different colors like shadowing or putting mix colors Aaron follows

different process; he opened the color window, picked the colors from there which can be a mixed of two colors and while moving the cursor on the color pattern the color of the selected area gets changed into new shades. Here one can put shadow or change the saturation from light to dark etc. There are more things can be changed using the color window like putting textures or creating different shades of colors etc. all are these things described in the video tutorial done by Aaron:

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#### **BLOGS**

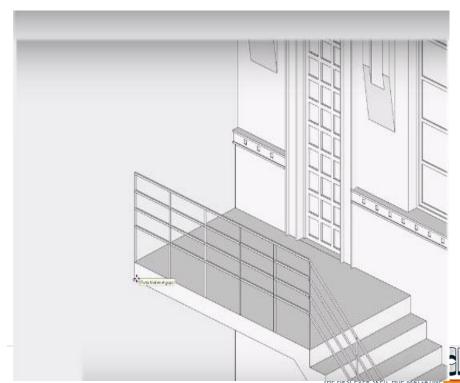
#### ♣ An Architectural Visualist: Alejandro Soriano

SketchUp user and Architectural Visualist, Alejandro Soriano has been working with SketchUp from a long time and has discussed about his works and interest in a current interview.

This article is dedicated on Alejandro Soriano and his awesome creations; here are some details about the creator and his creations. It is a description of the interview between Alejandro Soriano and Charlotte Shepard.

Alejandro Soriano: He is a one-of-kind Architectural Visualist who has a specialist in SketchUp and learned SketchUp skills from a friend in Valencia, Spain over ten years ago. After learning he became a SketchUp professional and becomes a complete 3D modeling expert with a traditional yet modern style. He studied Architecture in the Polytechnic University of Valencia, Spain and in the first year he has learned SketchUp form a classmate and after realizing the speed of modeling and the simplicity of

learning he started to love it



According to him, architectural visualizer has to explain how a building will be going to be through detailed pictures and/or videos. There are various other ways also to connect and communicate clients about the way of doing a project like through illustrations, drawings, cardboard models etc. but the main purpose is for any viewer to get a particular idea about the progress of a

project. As an architectural visualizer, Alejandro tries best to convey to the viewer any unbuilt project creating 3D models with SketchUp and sometimes he translates these models with a rendering software or use Photoshop to create matte paintings.

The style of work: Alejandro has his own style of work; before starting any modeling first of all he treats the model as a piece with intrinsic value where the model may be anything like everyday objects, traditional furniture or modern design etc. He mainly looks for the internal beauty of the object through a meticulous modeling and minimalistic renders. He generally works on testing extensions, plugins or new techniques with topics which he is not used to work as he loves to push himself to think about modeling an object in different ways that provides him a new angle to facing the modeling process.

Reasons to rely in SketchUp: Anyone experienced with SketchUp will agree that it the easy one to learn but yet tough to master so it is really important to know the way of dealing with components and layers, way to organize the models etc. according to him, SketchUp is really a great tool for modeling from CAD and BIM files where it is easier to learn the way of dealing with solids properly and it also has a toolset to work with solids. That toolset helps users to work with Boolean operations like union, subtraction, trim, intersection and split etc. and this solid tool also works great with the Scale tool. If anyone can get appropriate CAD/BIM files then it will be easier to import them and modeling the project in SketchUp. While creating a project from scratch, there are some awesome extensions for speeding up the modeling process; also DIABC for SketchUp, made by the good people from Iscar Software is a wonderful tool for architectural design.

His works: Alejandro loves modeling existing buildings and objects; here it is important to represent its surroundings to contextualize a project and he uses Match Photo that helps to model any environment quickly. He also likes to play with the edges and profiles, uses hidden geometry as an aid to his illustrated models; everything just super fabulous in his models.

He also told something on modeling with Quads; in his words, there are many ways to model an object and among them one is a polygonal mesh that could be created from polygons with three sides or tris, four sides or quads and five or more sides called n-gons. In case of working with quads, the model behaves differently while subdividing or editing turns out predictable and it is so reliable in working.

More: He has currently focused on learning two new SketchUp extensions; one is WrapR, it is an extension that helps to create a UV mapping on any SketchUp quad-faced model and another is VR.



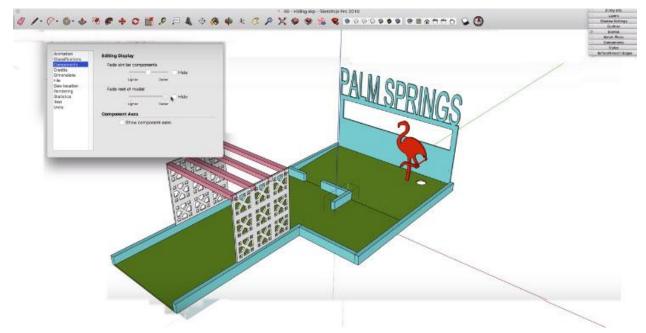
#### Hiding things in a Model

SketchUp Tools are making things easier and by its constant upgradation, it is solving many problems such as Hiding things in a model while editing single geometry.

While working with a model, users or designers often places geometry into groups or components as it helps in two ways; one is that this geometry makes the model more functional and secondly it becomes easier to guide. But often placing geometry can make things difficult to edit and there the user faces problem though there are ways too like: 1) the users could move the group out of the model or off to the side and then may get it back exactly where it was once edited. 2) The users could make a copy of a component, paste it off to the side and then edit it; this will help to assume the changes in the original component while making. 3) One could simply delete the remainder of the model, and then can make other changes by selecting group and redrawing everything again.



These above options are little difficult and time consuming processes, they could be hard to adopt for users to do in a model, so Aaron has found a way to manage this thing in his new video tutorial which will describe the way of controlling the visibility of containers. This process has made the process easier to see the working while editing groups and components.



Hiding rest of model: Groups or components are very essential in every model but while adding geometry here it become little difficult when the geometry is needed to edit that's why Aaron finds a way to edit by hiding the rest of model while editing geometry. If anyone follows the video properly he or she will see a model existed there which is grouped and the inner geometry has to edit within the group; so for this he double clicked on the group which is need to edit. Now while clicking inside the model a little box will be created like a shell that will disconnect the edit object from the rest of model. Then at first he clicked on the window and chose the option 'Model Info', from there he went to components tab and clicked on it; it opened a pop-up where some sliders can be seen and by moving the sliders it will seen about the faded color of the rest of the model in similar of the selected component or group.

Beside the sliders option, there is another check-box called 'Hide' and checking it the rest of the model will hide leaving the selected group. In that components dialog box, one can also separately control the fading capacity of the rest of the model; now for editing same process need to do: first double click on the component and then chose view menu. In the drop down of view menu, there is an option called component edit having two options: hide rest of model components and hide similar components. The first option hides the rest of model without the clicked area and the selected parts can be changed or edited easily; moreover that this Hide option can be made hotkey under the Windows menu for future easy use.

#### Multiple Profiles can be handled by Follow Me extension

SketchUp Warehouse is full of various wonderful and useful extensions and tools that make the design thing a lot easier, Follow Me is the newest of them with some unique features.

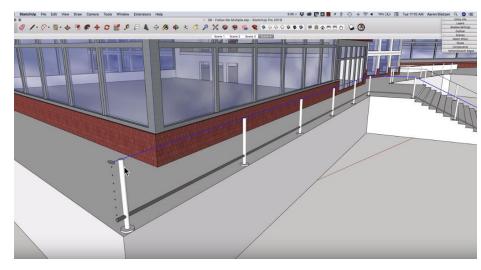


Aaron Dietzen this time comes with his new useful creation of importing and exporting via SketchUp Shop which is the newest thing for SketchUp users. This article will describe the whole process according to Aaron and his video tutorial where the new tool Follow Me Tool is introduced and Aaron is in love with this tool as it can be used as a substitute of Push/Pull tool.

**About Follow Me Tool:** The SketchUp Follow Me tool is the Pied Piper of 3D geometry as it leads a face with a path to build a 3D shape. Though this is the only thing this tool does but it has a pack of applications and enables the users for drawing difficult 3D models with only a few clicks. The Follow Me tool can find in many places in SketchUp like Tools menu, Edit toolbar, Large Tool Set toolbar and Tool

palette (macOS).

Aaron has been using as a replica of Push/Pull tool and also as a modification tool; in his words though Push/Pull tool is great but while he wants to seep a molding profile around a room or round-off the corner of a table he can easily does with this tool. But there are lots of places when he finds difficulty to use this tool



such as while working with a bunch of shapes and have them all follow the same path. Follow Me tool will do the work but with an unwilling way where lots of selecting, path picking, then Follow Me tool, and then again picking the profile etc. which will continue to the next shape again. So it is a time taking matter for everyone and Aaron tried to solve this problem with using some idea and through his video tutorial he has presented the whole matter well. This article is a little description of his taken steps and here is also the tutorial link for further help; so let's begin:

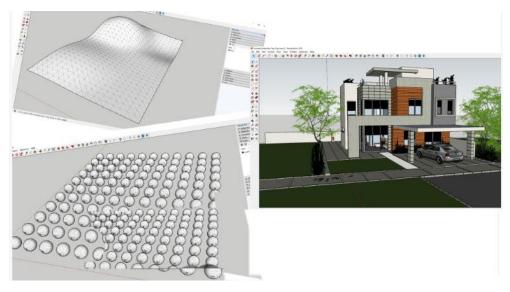
Aaron has created a wonderful model where he has used a lot of shapes of different sizes and he has made all those shapes and sizes to follow a single path in one click. At first he has selected the path and then click on Follow Me icon; after clicking the exact work the tool does as it name replicates it created a whole Follow Me path on the selected areas. Again he did the same thing; selected the path and clicked the Follow Me tool to create another path from the shape and it will continue till the last shape gets completed under Follow Me path. Actually the shapes like circle or rectangular are made at the end of the Railing bar to make them able in using the Follow Me tool; he has created some little shapes there and he drew a rectangle over the first shape and then copy it through all the shapes that created another thing. He just used the Follow Me tool and clicked on the rectangular shape to make it a covered area. Next he took the top of the shape and deleted couple lines which created a followed path with detailed design. The same thing he has done with his next shape; like working with the stairs, he created inside and outside to make a voy, then copied the 'N' shape on the other side and repeated the whole process again.

### Quantities and Cost estimates with Quantifier Pro in SketchUp



SketchUp's Quantifier Pro is a brand new extension and amazing extension that is used to quantify and help to apply pricing to things within the SketchUp model.

**Quantifier Pro:** SketchUp 2016 or the newer version is suitable for Quantifier Pro and it is also compatible with both Mac and PC. This is the ultimate tool to get instant quantity and cost information



from the SketchUp model. It has various features like:

- Selecting the objects in the model will instantly show the total length, area, volume, weight and cost
- After using the model all the reports are model-

driven and automatically update while the model will change.

- Fully Customizable Component Reports are found there which will show length, width, height, projected area, surface area, volume, weight, cost and many more things.
- There are also detailed cost reports.
- Instant Material Report will show the surface area of all materials in the model
- Assign re-usable cost rules are shown by layer, material, object or to the whole model
- Cost Inspector tool will show total cost calculation for the selected object to verify accuracy
- In Windows, Microsoft Excel is used to share unified cost data across many SketchUp models
- This extension also supports many languages and international currency
- There are full control of units and accuracy shown in reports
- If Profile Builder 3 is added with this extension, then it will be even more colorful.

This Plugin cost \$79 alone and if it is bundled with Profile Builder 3 then it will cost 25% off of each extension

Functions of Quantifier Pro: This particular extension is designed to help in quantifying and price in different things within the SketchUp models; at first the users have to select different objects within the model and then apply cost data to them within quantifier. Within quantifier, users can select different objects and can be viewed within the quantifier dialog. It should be kept in mind that while using quantifier, users have to put the objects on the same material on their own layers; as an example if one is going to quantify a block wall then he/she will try to put all the block wall objects on a block wall layer. After this, this extension will allow the users to apply various cost properties to the objects on the layer. Moreover that, this extension can be used to apply costs to objects by other units within the model like length; and it also works with profiles that have not been created with Profile Builder or by the users themselves.

Users can also apply costs based on SketchUp materials also and this will calculate the cost based on materials that have been applied to front side faces only to avoid double counting back side materials. It is also possible to directly overrule the cost added with an object using the object opinion and while modeling an object that are punching a bunch of holes it; then it is better to model that as standard geometry rather than a profile builder assembly as they actually calculates using the bounds of an object. Finally besides all of these one can create reports within quantifier that can either viewed within SketchUp or can be exported to Excel, theoretically one an import cost data from an Excel spreadsheet also.

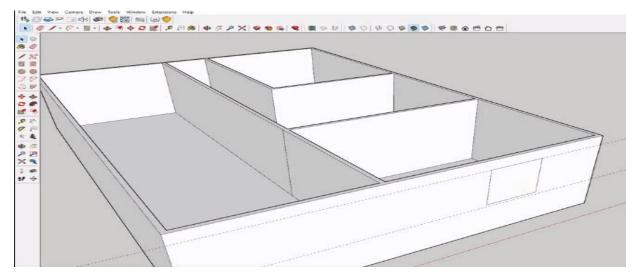
**Justin Geis:** Justin Geis is the founder of The SketchUp Essentials and started using SketchUp while he was working as a general contractor in 2008 and after using it he found that SketchUp is extremely powerful that he just started to use it in his personal works also. Then he started The SketchUp Essentials as a place where he could share his ideas of using SketchUp easily through some tutorials and tips to help other users controlling the power of 3D modeling in everyday lives.

## **TIPS& TRICKS**

#### ♣ Top 10 features of the Push/Pull Tool in SketchUp

SketchUp's Push Pull tool is used in the models having flat faces for doing multiple changes or adding geometry or removing geometry etc. it has lots of functions.

**About Push/Pull tool:** The Push/Pull tool is a simple thing used for emit flat faces into 3D shapes and it worked with simple click. This tool can move the selected objects, vertices, edges or faces closer together by Pushing or further apart by pulling; here specifically each and every element is moved towards or away from the center by the same distance. This specific distance is navigated by the movement of mouse either in up or down position, numeric input or through slider control.





Methods to use Push/Pull tool: Here are some quick steps that will help to learn how this push/pull tool works-

- At first the Push/Pull has to select form the toolbar and this tool looks like a little box with a red arrow coming out of the top.
- Net it is time to show it through the work, if anyone clicks the "floor face" then it would be expelled but if anyone chooses wrong face mistakenly, then just click Esc button from the keyboard to cancel the action and can try again.
- Users can add precision in the next step by moving the cursor to pull up the wall which needs to prevent from extruding.
- Typing 8'and pressing Enter key, the push/pull distance will be edited to be exactly 8 feet which is the height of the ceilings in a house.
- Orbit helps to view what is done in the work around the model.
- While using Push/pull tool for matching the height of the interior walls one need to edit the group at first, then right-click on the exterior wall face and choosing Edit Group from the context menu will help the users to go inside the model.

#### Functions of Push/Pull tool:

- 1. Push Pull large, continuous faces: The push/pull tool can connects faces and it is one of the greatest functions and this particular thing makes it so far great for projecting floor plans. But this tool can be used only on the flat surface to project any object in the same surface.
- 2. Push pull with inferencing: It is another great function where when the push/pull tool becomes active, it inference to any other in the model and allows the users to easily push pull things to align with any other thing in the model.
- 3. For cutting a hole in a thing: This tool allows creating holes within objects and it can remove faces when it reaches the back side of an object that is equal to the original face.
- 4. Push pull precisely: This tool can also help to type a value to set the length of the extrusion which is needed to be created.
- 5. To hid geometry: Besides adding geometry in any model, this tool can also removes geometry. It can be used in creating things like roofs and other tapered shapes fast and easily just need to break a face up and use this tool to push that geometry away.
- 6. In creating new face mode: Push pull can create new faces which is an unknown function for people, basically this tool allows people to create new geometry within the model which is very useful while creating objects that need to modify with the scale tool.
- 7. Double click to repeat: Similar as other tools, this tool also allows repeating the last function by double clicking.
- 8. Intersect with face via a curved object: It cannot curve surfaces but coupling with another tool in SketchUp to cut holes in curved surfaces.
- 9. Multiple profiles at once: Push pull tool can't multiple objects at once but it can remove a shape from another to create profiles as 3D shapes.
- 10. Push pull with hidden geometry: This tool can curve or smoothed faces.

Source: www.thesketchupessentials.com

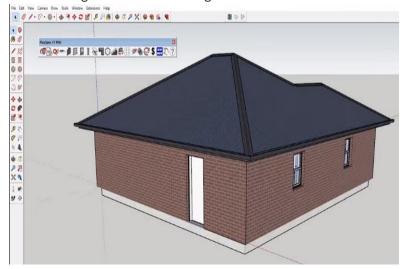


#### **♣** Top 10 House Modeling Extensions for SketchUp

**About SketchUp's Extension Warehouse:** The SketchUp Extension Warehouse is an online resource full of plug-ins and developed especially for SketchUp and these extensions allow users to add special tools and features to SketchUp. Users can find different extensions for a particular application like drawing or 3D printing and industry-definite tools like extensions for architecture, interior design, construction and many more.

Here are some top 10 House Building Extensions for SketchUp which will help users to build models easily:

- **Medeek Foundation:** Medeek Foundation is an elaborated foundation building extension that gives permission to the users to build perfect concrete foundations for every building and this extension can also create everything like from anchor bolts to rebar for users' foundations.
- Housebuilder: Housebuilder basically an older extension containing a set of tools which are
  designed to help users in modeling house framing and it has everything like from framed
  flooring to wall framing. Here users can go back to their previous work and can add and move
  around created doors and windows to walls as well as also can create roof framing. But this
  older extension might lead people with some problems while getting it installed in their
  computers.
- Profile builder: Profile Builder is actually a smart profile building extension that set up wall
  bodies instead of creating wall framing within profile builder that includes different things like
  framing, sheathing, drywall and insulating batt. After creating these assemblies within Profile
  - Builder, users can also arrange a program of materials which allows evaluating the things within the model; users can also create things like stair rails and other objects with repeating pieces with the help of this extension



- 1001 Bit Tools: This is a set of tools which is designed to make architectural
  - modeling easier than before and this extension has every kind of building tools like from wall building tools, tools to add openings to those tools, stair creation tools, door and window frame tools, roof framing tools etc. So basically it is a huge toolset that has many useful tools also for every user.
- **Tig Roof:** This extension is designed to help users in creating different types of complex roofs easily and it works on simple rectangular roofs with complex shapes that give a lot of flexibility while working with various shaped buildings.



- Medeek Wall: This is the newest extension from Nathaniel Medeek that helps users in creating
  detailed wall assemblies within SketchUp and helps users in creating similar framed walls within
  SketchUp models with a focus modeling walls. The openings may be moved and adjusted in real
  time as it is still under testing process.
- Plusspec: This is not a normal house modeling extension rather it is designed to bring true BIM
  to SketchUp as it has a large case suite of a building creation tools and also some tools to make
  mechanical and electrical in the drawings, for designing the communication of notes, costs and
  more.
- Medeek Truss: This is from the same house of other Medeek extensions and is designed to
  create accurate trusses in the model; it can also create and show real trusses, though there is a
  lot of different truss option. Users not only can add different types of roof trusses but floor
  trusses also
- **Gkware Cabinet Maker:** This extension helps users to create quickly accurate cabinets within their SketchUp models and helps to edit every single part of the cabinets. This extension models the cabinets that will give a look of originally built and allows great accuracy in the model.
- **Floor Generator:** This helps to create difficult flooring within the models and helps to create shapes like brick, tile, sliding and many more within the model. Users can create flooring with real depth and can apply textures to the materials.

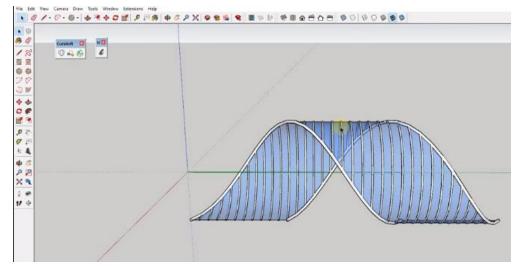
#### Modeling SketchUp Frame and Skin Structure

SketchUp Tools are making things easier and creating a Ribbon shaped Spiral structure becomes easier by using the simple tools of SketchUp; it's just the game of mind.

Aaron Dietzen takes about Modeling the SketchUp Frame and Skin Structure which is called Spiral

Ribbon Structure through his video tutorial and this article focuses on that tutorial describing the process in details.

About Aaron
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As SketchUp users are most of architects, designers, builders, makers and engineers etc. who works hard to give a nice shape to our physical world, they need great tools to do the work. SketchUp is in mission to bring their best to produce some great tools for drawing as drawing is the key thing of the SketchUp users. They draw to search ideas, to identify the things and to show other people their work that they do with love and love to build; SketchUp understands it truly and trying to improve their software day by day.

SketchUp is used to create different designs and models using some awesome featured tools like line tool, shape tool, curve tool etc. This time Aaron has shown us of the way to create the Spiral Ribbons those are basically curved and shaped from a single long line; at first he started from his original point in the SketchUp main page to create a Spiraling Shape or can basically named as Ribbon. This Ribbon is originally helix and rotated in a way that it came into a shape of Ribbon, so he drew a line as per the length and line such as he drew a 150 ft line using 'Line Tool' from the origin point. To create a helix over this line the line need to simply select and used Extension Helix along Curve to helix it that would be around this line.

After clicking the Extension Helix along Curve to helix option, a pop-up appears showing the measures where some important things need to put like start and end Radius, the laps, the section for every lap etc. These particular numbers are really essential to remember as these exact numbers have to put for the circles to make it a ribbon shape, after finishing the numbers to put and clicking Ok

Option a single helix will be created on the line. A copy of the helix is made next by exploded it and moving it through the 'Move Tool' and through connecting and shifting the helixes a complete hymen will be created. The Extension Curviloft is used then, in this extension the last option is used upon the created design which will make scan like designs on it with some dotted lines to figure out the exact points get connected or not. It also counts the segments and after clicking the final face will be created; if one offs the curviloft effect the image will appear as a group, then he created a frame along with the helix. For making a frame, at first he has made tubes along the helix to give it a tougher look and in this tube the segments are remained same as in helix.

Next he hid the tubes, makes the helix a group and clicked inside it to create a circle from the origin with the Circle Tool through the same radius at the front of the object. Now the circle is set into same segment, then the whole object is selected and using Copy tool the circle is copied in the same segment; this copied circle is set using the 'Move Tool' and putting the exact amount of circle the object will come to end. After adding the hidden tubes and adjusting the circles as rotate lines the last object will appear



as a ribbon shape and this whole object is grouped and copied and them using move tool is placed to give the final spring shape.

#### Bending Objects in SketchUp with Truebend by Thom Thom

SketchUp Warehouse is full of various wonderful and useful extensions and tools that make the design thing a lot easier, TrueBend is the extension that helps to bend the designs.

Aaron Dietzen this time comes with his new useful creation of importing and exporting via SketchUp Shop which is the newest thing for SketchUp users. This article will describe the whole process according to Aaron and his video tutorial where the new tool TrueBend is introduced which is discovered another SketchUp experienced person, Thomas Tomassen.

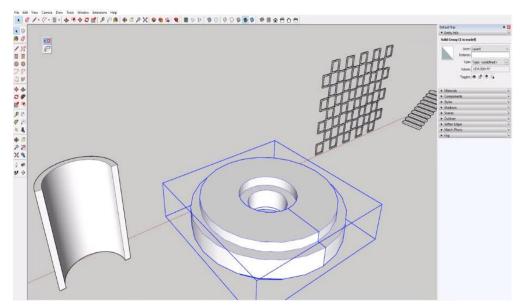
**About Aaron Dietzen:** Aaron Dietzen is mainly seen in various SketchUp Live or any of the Skill Builder videos or been on the SketchUp forum, that means Aaron is fond of SketchUp and serving as a SketchUp employee for two years with more than ten years in the software. He is more than just a simple Trimble employee; he is a true SketchUp fan. He spends his free time in designing things in SketchUp and loves adventurous works.

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things and to show other people their work that they do with love and love to build; SketchUp understands it truly and trying to improve their software day by day.

SketchUp Warehouse has various extensions and plugins that allow the users to design quickly and accurately and like all other extensions, True Bend is also helpful in bending objects within SketchUp and this extension has found by Thom Thom. Here is some information about Thom Thom and his extension True Bend.

**About Thom Thom:** Thomas Tomassen is actually known as Thom Thom, he is a modelmaker with a large desire for physical, digital and traditional design in most kinds of the trade. He is also focused on webdesign or programming and 3D visualizations but he is specialist in 3D modeling, SketchUp, Webdesign, graphic design and web programming.

**About TrueBend:** This extension can be found in SketchUp's Extension Warehouse and it bends instances for a given degree, saving the original length of the reference segment and in recent this reference segment is the bottom front of the boundingbox. As this works at the bottom front bounding box edge so it is recommended that the instance axis line up with the bend.

#### Menus & Toolbars:

- Tools- TrueBend
- Right Click- TrueBend
- Toolbars- TrueBend

#### Related Links: GltHub Repository

Tool Functions: This tool or extension is totally designed to help users for bending objects within SketchUp for a given degree or radius and it also allows users to bend an object while keeping the length of the object intact. An example will definitely make this matter clear: suppose a user wants to bend a shape which is 60 inches long along a 180° bend then he/she will click and drag the red bar on the SketchUp design page for bending the object. Or the person can just click and drag to enter a value in the VCB to manually set the number of degrees in the bend; here the magic happens, this particular cool extension allows bending object sup to 360° where other extensions such as radial bend in FredoScale, only really allow users to go up to 180°. Moreover that, users can also adjust the number of segments created by typing an "s" behind any entered value and it is useful for things like spiral staircases or many other things where users need to bend as per on a set number of segments. Besides that, users can also adjust their created segments which has become softened or smoothed or may an unhidden geometry is created.

Source: <u>www.thesketchupessentials.com</u>