

SKETCHUP-UR-SPACE

THE FIRST EVER SKETCHUP MAGAZINE

Trimble Visiting Professionals Program

Cover
story

Editor
Subhra Bera

News



SketchUp Hub's Top five
Interior Design Trends for
2019



Using 3D Printer with
SketchUp



How to handle Extension
License Issues



SketchUp Viewer will
help to experience all the
realities

Tips & Tricks



SketchUp Hub's Top five
Interior Design Trends for
2019



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Interior Design Trends for
2019



About Maciej Fijałowski of VR
Sketch



Going from SketchUp to Unity
using PBR materials

Articles



Breaking SketchUp
model into Parts for 3D
Printing



It is easier to discover
New Favorite models in
SketchUp



Turning 2D Typography or
a Survey to 3D Terrain in
SketchUp



New features about
SketchUp Pro 2019

Blogs



Helix Along Curve Plugin for
SketchUp



Creating Polygons in
SketchUp in 5 seconds



Advanced templates in
SketchUp Pro



Introducing SketchUp
Campus

Editor's Desk

- **A Letter to the desk of the Editor to Letter from Editor's Desk**

Article

- **New features about SketchUp Pro 2019**
- **It is easier to discover New Favorite models in SketchUp**
- **Turning 2D Typography or a Survey to 3D Terrain in SketchUp**
- **Breaking SketchUp model into Parts for 3D Printing**

NEWS

- **How to handle Extension License Issues**
- **Using 3D Printer with SketchUp**
- **SketchUp Hub's Top five Interior Design Trends for 2019**
- **SketchUp Viewer will help to experience all the realities**

TIPS & TRICKS

- Using sketchup's cleanup3 and solid inspetcor2 tools
- Creating own sketchup material libraries
- Importing sketchup textures & creating custom materials
- Custom toolbar button images in layout

BLOG

- Advanced templates in SketchUp Pro
- Creating Polygons in SketchUp in 5 seconds
- Helix Along Curve Plugin for SketchUp
- Introducing SketchUp Campus

**Editor's
desk**

**A LETTER TO THE DESK OF THE EDITOR TO
LETTER FROM EDITOR'S DESK**

Hello readers, I hope the SketchUp-Ur-Space team becomes able to fulfill your demands and questions through our every month publication. Every time with every edition SketchUp-Ur-Space team try our best to preset some new and exciting SketchUp related things to you.

In the beginning of this magazine, our hardworking team members tried their best to deliver best SketchUp related details or article to the readers so that SketchUp users and professionals can find their every needs here. But due to some changes in the Editorial team, we were unable to deliver the magazine every month but this year we decided to follow the trend again. That's why from January we are continuously working on delivering best and useful news for our readers.

Readers are our big assets who inspire us to find some new ideas and discussions on SketchUp-Ur-Space magazine. SketchUp-Ur-Space team is researching on the detailed news of SketchUp and the result is in front of everyone. Ok let's start this edition without wasting more time.

In every single edition, being a SketchUp lover and admirer we try to focus on the things that will help readers in creating their 3D models. 3D models are the best way to share ideas, view future ideas and connect with other people all over the world. SketchUp is the best way of creating 3D models and using them for getting some better results.

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 January edition has come up with the same motto and various unknown surprising facts on 3D designing that will surely amaze you.

The cover story of this edition talks about the review of Trimble's Visiting Professional's Program where SketchUp professionals from all over the world joined and discussed about their thoughts.

In the Article section there are 4 relevant topics written by our editorial team that depicts about new features and extensions of SketchUp which will develop 3D printing more than before. The first article is about the new added features of SketchUp Pro 2019 version. SketchUp Pro is a well known version of SketchUp which is also a paid version; second one tells about the method of finding New favorite models in SketchUp; third one is the way of turning 2D Topography or a Survey to Terrain in SketchUp and the last one is the way of breaking 3D model into Parts for 3D printing.

The Blog section includes three reviews and one new announcement, such as: 1) About the Advanced Templates in SketchUp Pro 2019 , 2) The way of creating Polygon in SketchUp within

5 seconds; 3) Review of Helix Along Curve Plugin and 4) the new place for SketchUp lovers, SketchUp Campus.

The Tips and Tricks section will help new beginners to be easy with SketchUp through some easy learning process of 1) Only focused on CleanUp3 from SketchUp; 2) Review of Tape Measure Tool; 3) About Maciej Fijalowski of VR SketchUp and 4) using pbr materials to move from SketchUp to Unity.

Meanwhile the news section comes with different solving matters like 1) the way of Handling Extension License issues; 2) Methods of using 3D Printer with SketchUp; 3) to 5 Interior Design trends of SketchUp Hub and 4) SketchUp users will help in experiencing all realities.

Huge topics are here to calm down your anxiety about working on 3D model in SketchUp and SketchUp Pro. Hope all our efforts can be helpful for you and help to solve your problems. For further queries please contact us through our email address.

Best wishes

Subhra Bera

Editor

For any feedback and query please mail us
at subhra@jobs2india.com



Articles

NEW FEATURES ABOUT SKETCHUP PRO 2019

The whole team of SketchUp Headquarters has proudly announced the newest SketchUp subscription of SketchUp Pro 2019 where users can get all the favorite products to work.

According to the developers, SketchUp Free is the simplest, consistent 3D modeling till date that will help the user to access, learn and share the models with others easily. It has been more than a year at SKetchUp Headquarters with huge amounts of coffee consumed and after a long wait, SketchUp HQ finally released SketchUp Pro's new version SketchUp Pro 2019.

The whole SketchUp team has been discussing to bring SketchUp lovers the newest development in the life of their products; they proudly announced a brand new way to purchase all the SketchUp products which is the SketchUp Subscription. They have offered the best value so that users and SketchUp lovers can easily choose the perfect combination of SketchUp for every project, workflow or creative concept.

This is a real opportunity to challenge the team itself to earn users' business every single day by continuously improving the tools which are needed and loved whole year. The new ways to buy SketchUp is on their website; still the team has been working to bring subscriptions for years as according them it is the best way to deliver more value to the users in a single package. Their shift in new business will make it easier for new users to buy SketchUp and for current users; even more SketchUp products can be easily available. Besides that, this shift in business will help to keep them accountable to run business by releasing new features as often as possible; this is a challenge for them which they have taken proudly and moved process from an annual update cycle to a continuous cycle.

The new version has become faster and more powerful than ever before with bug fixes, system improvements and some wonderful new features. Here are a few of the highlighted features:

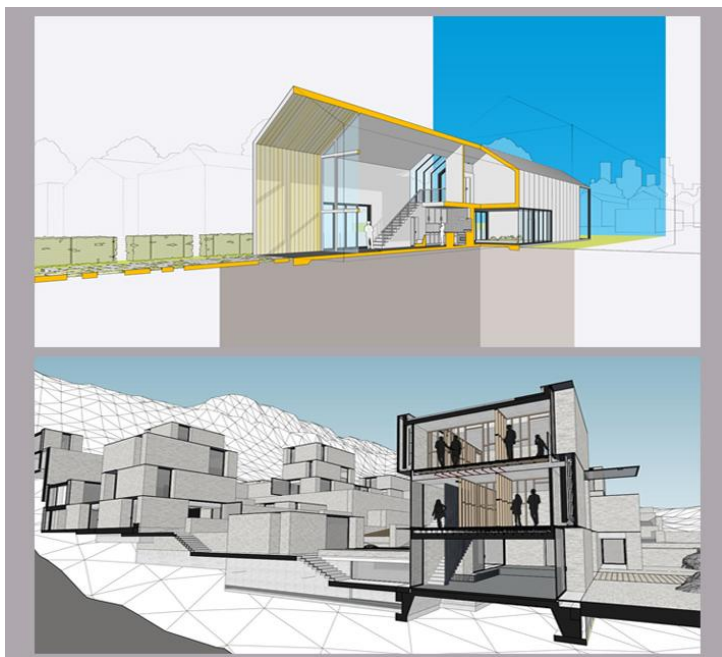
SketchUp Pro 2019 for Desktop: Just need to Sign in and modeling will be started; everything in SketchUp-iverse is now combined together with one single account to make modeling, viewing, account management and many more. In SketchUp Pro & LayOut 2019, Layers now come with dashed lines which can allow simplifying drawings with effective drawing communications. While the Tape Measure tool can help to see measurement info in the modeling.

LayOut: It will help the users to know which files are ready to open; in both SketchUp and LayOut there are many improvements to the .dwg import and export feature. There is also the ability to import and export with materials for better BIM interoperability and workflows. An "Export for SketchUp" feature between SketchUp and LayOut feature .dwg exporter will send

all LayOut entitles along with any SketchUp viewport data to the model space.

Trimble Connect: It will welcome users to a new world of efficient workflows and cloud collaboration; their 3D modeling sharing and document management tool is fully focused on projects related to building design and construction.

SketchUp for Web: The team has added a 'live preview' for image exports; after signing in to SketchUp for Web when users open a model and go to File>Export>PNG, it will



recompose model as taking a snapshot at the desired image ratio.

SketchUp Viewer for AR/VR: SketchUp Viewer is now also available on more VR headsets than earlier, just need to access to every single one with a SketchUp Pro subscription. Oculus, Windows Mixed Reality, VIVE and Hololens are all running SketchUp Viewer.

SketchUp Campus: SketchUp's official learning hub is known as SketchUp Campus where SketchUp-built courses all created by their in-house team that make SketchUp convenient and simple in 104 languages.

3D Warehouse: The 3D Warehouse has millions of models and 17 languages from where it is difficult to find the right thing on time so new version has come with categories which boasts better browsing, search refinement, subcategories and filtering by real products etc. that helps fast searching in less time.

Sefaira: Those who are working in a firm that has a focus on performance-based design, SketchUp's Sefaira is like a subscription through SketchUp Radio.

Source: www.blog.sketchup.com

IT IS EASIER TO DISCOVER NEW FAVORITE MODELS IN SKETCHUP

Google SketchUp team has been improving their tools and models continuously, at first they have released the new updated SketchUp Pro 2019 and then they released new 3D Warehouse.

The whole SketchUp team has been discussing to bring SketchUp lovers the newest development in the life of their products; they proudly announced a brand new way to purchase all the SketchUp products which is the SketchUp Subscription. They have offered the best value so that users and SketchUp lovers can easily choose the perfect combination of SketchUp for every project, workflow or creative concept.

About Extension Warehouse: It is an online resource with various plug-ins developed made especially for SketchUp and these extensions help to add some special tools and features to SketchUp. These extensions can be found for any particular application like drawing or 3D printing and some industry specified tools for architecture, interior design, construction and many more. So basically in this Extension Warehouse people can do the following things:

- Users can search extensions by name or as per the functionality.
- They can also install various extensions with a single click of a button.

- Or users can also control all the extensions from easy-to-use location in the My Extension page.

But there are millions of models and 17 languages in the 3D warehouse of SketchUp Pro 2019 that makes it difficult to find the right one that can be used on the tools. SketchUp users have been facing this difficulty from a very long time so the SketchUp team has done something to fix this problem as they don't want that their customers may miss their perfect model and they want to help in discovering some hidden gems in SketchUp 3D Warehouse. SketchUp team proudly announced the release of Categories on 3D Warehouse; these categories will help the users to easily search and browse in the world's largest 3D model library. Here are the most improved features and the categories discussed that will help to figure the things out:

- **Better browsing:** The new updated 3D Warehouse has come with better browsing experience to do the heavy lifting through the following steps- 1. At first users need to start with an "empty search", 2. Then they have to select a Category, 3. There, they can watch the search results update and 4. Can get inspired.
- **Refining the search:** The quality of search based as per the text of the author that uses to describe their model and if description doesn't match with model the Selecting a Category will help to filter out the models that aren't relate to the description.
- **Sorting by Subcategory:** There will be millions of categories from which users can get their own models but if they want any specific one the Subcategory option will help to select the exact model.



- **Filtering by real-world products:** Users can now search their needed buyable 3D models from the Manufacturer Model filter option where they can easily find and buy models.

- **Categorizing the models:** Categorization option in SketchUp 3D Warehouse has just begun which can be made better with the help of users like users can themselves categorize models as their own need. Actually

categories make it easier to find right great content on 3D Warehouse, even there is no title or description or it can be in different language

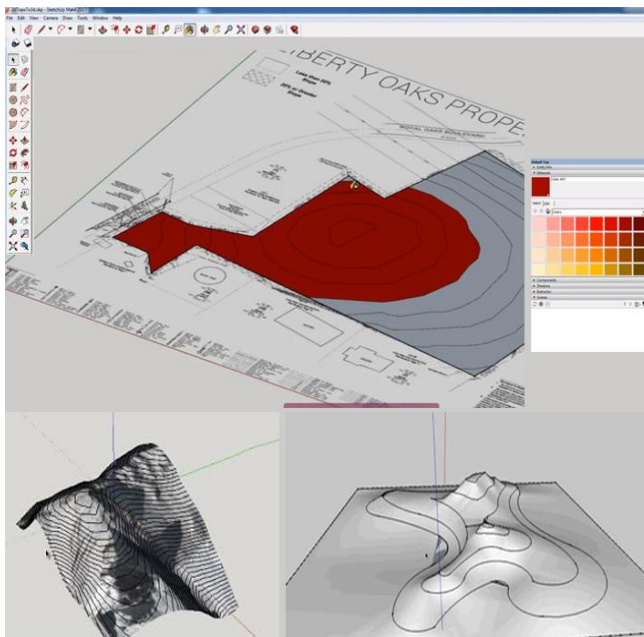
Source: www.blog.sketchup.com

TURNING 2D TYPOGRAPHY OR A SURVEY TO 3D TERRAIN IN SKETCHUP

Creating a SketchUp Topography or topographic map can be a huge painful work, but here we are going to discuss the process of creating topography in SketchUp through some simple steps.

1. At first users need to import Google map into the project but before that the terrain must be toggled on.
2. Then users have to create a grouped rectangle that covers the total site, next they can copy this rectangle up as per required increment or can copy all the rectangles and lastly group them together.
3. Next users need to move their rectangles off to the side or can hide them so that the imported Google earth terrain can be seen. Then unlock and explode the imported terrain.
4. After that, the grouped rectangles need to move over the terrain again or can unhide it.
5. Users have to press Ctrl+A to select all, R-click on one of the groups; then they have to scroll down to Intersect Faces and Select with Selection.

6. Hide or delete the slicing planes and the topographic map will be created.



From a survey to 3D people are facing a little difficulty while transforming a 2D topography into a 3D terrain in SketchUp, this article is just going to focus on the problem and describing few steps to clear this matter.

Importing the Image:

- File > Import is the first step is to import the image that Users want to convert from a 2D survey to 3D terrain or topography. The following steps are: 1) select “import” from the file tab from the lower right dropdown menu and then select “supported image type”. 2) Image should be in a graphic scale so can it can be scald in SketchUp properly, at last select the right image and click “import”.
- Next the image should be placed and roughly scaled to the correct size, for accurate scale select the tape measure tool and click from one end of the graphic scale to the other.

- Next a message will appear on the screen asking if users want to resize the model with a pop-up named “yes” it must be clicked before begin modeling of anything.
- After that, users can change the view from perspective by navigating to “camera” and selecting “parallel projection”. Then select the follow path- camera > standard view > top which will give a top view to trace easily.

Tracing Topography:

- The first step starts with Tracing the perimeter property line and then tracing the topographic contour lines within the boundary with the help of Line tool.
- Next delete faces using following path: click on “select” > “all with same material” and hit delete.

Converting Survey to 3D model:

press ‘ctrl’, click and drag mouse to select the property boundary lines, now click on “edit” and click make group option. Now move the 2D contour lines by selecting one and pressing the “up arrow” and type the needed height. Next highlight all the lines and deselect the property line from the following path: draw > sandbox > and select from contours. Now draw some additional contour lines beyond the property line replicating other contours, next select each line and change the height to correspond with the decreasing increments of the original contour lines and follow the steps again.

Source: www.designerhacks.com/

BREAKING SKETCHUP MODEL INTO PARTS FOR 3D PRINTING

SketchUp specialists Aidan Chopra has discussed a process which is simple enough for users who want to break their SketchUp models into parts for 3D printing.

While doing 3D printing in SktechUp, users need to run into the need to spilt the model into parts. There are though some ideas are big to fit into the 3D printer’s build volume but other ideas want to be 3D printed in a rainbow of colored plastic or sometimes needs to be split to make it easy to print.

Almost everything can designed in 3D with SketchUp and who have splattered in 3D drawing or are interested to learn the basics of design, SketchUp for Dummies has made it faster and easier to learn the ropes of a powerful, user-friendly tool that bring life into the design ideas. Users can get guidance here from creating a basic 3D model to showcase their work through 3D print or animation, literally everything in SketchUp that can help in anywhere like from redesigning the house to mocking up the future great invention. More than that, SketchUp’s

vast usability has gotten very wide success as a tool that even non-designers can also make basic drawings; there are also many expert tips from former SketchUp product director Aidan Chopra and co-author Rebecca Huehls that help to draw and access SketchUp.

Aidan has described a process which will help users to cut the SketchUp model in the right time and right way.

Place to cut the SketchUp model:

while subdividing a SketchUp model into printable parts, always users need to find the right place to start and to think what to do with the seams. Like if users want to go to sand, paint and finish the model then can do it and cut at any place but sanding and finishing is a huge work to do while it will become much easier if anyone make cuts and seams look like they are international parts of model. Another good place to hide a cut is at a change in elevation, curvature or color; if users place a seam where the surface of a part is interrupted already, it will not be noticeable enough.

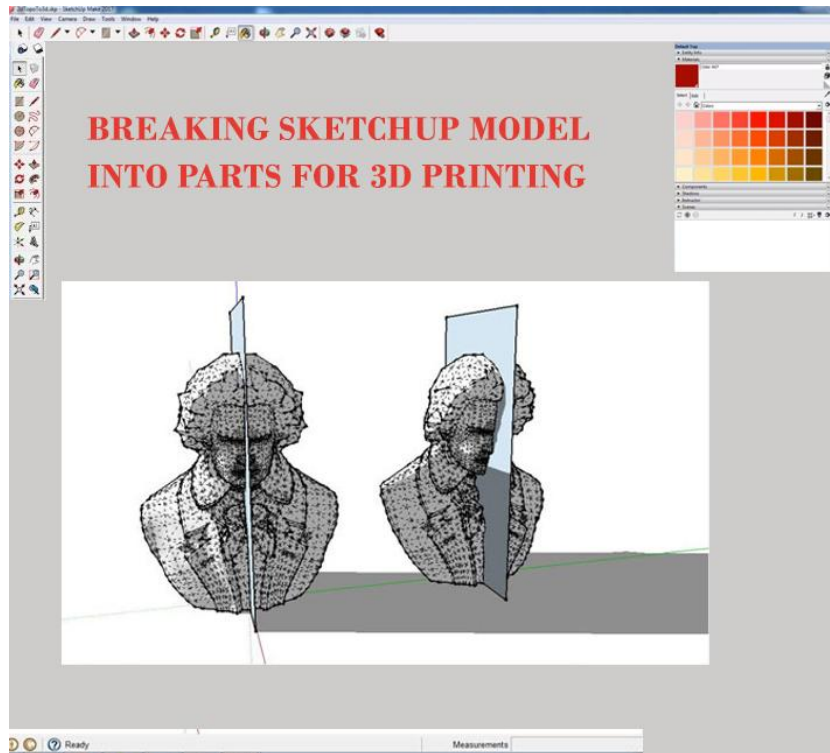
It is a good idea to pick something around us that is made of plastic and find the seams where the parts can combine together, and if that type of seam can be imitated people will notice and accept it faster. It will be seen as a realistic one and people will think that the 3D printed part came from a factory. If the constructions are large, then the only option may be to establish a grid and cut into build-volume-size blocks.

Process to cut the SketchUp model:

Cutting a model into parts is like using an Intersect Faces Tool to combine groups; users can simply place a piece of geometry as a cutter that will intersect with the larger object and become the new edges of the cut. For simple models in SketchUp Pro, users can use the Solid Tools to shorten this process, but for the complex models following steps need to do:

- Select the group and make a new group around it where the original one will become a subgroup.
- Then work inside the new group, create geometry in the shape of the cut.
- After that, make new geometry into its own group.
- Select Cutter Object> choose Edit> Intersect Faces with Context.
- Inside each group, use Explode to stick the intersection lines, cutting object and base object.
- Move back out to the master group and make copies.
- In each copy, open the group for editing and erase unnecessary parts.
- Run CleanUp3 on the new parts and use Solid Inspector2 to check accidental holes.
- Place the parts back together as lines should be

Source: www.dummies.com



HOW TO HANDLE EXTENSION LICENSE

The SketchUp Extension Warehouse has uncounted kinds of extensions which come with their own licenses and if the license expired then problems occurred while working.

About Extension Warehouse:

It is an online resource with various plug-ins developed made especially for SketchUp and these extensions help to add some special tools and features to SketchUp. These extensions can be found for any particular application like drawing or 3D printing and some industry specified tools for architecture, interior design, construction and many more. So basically in this Extension Warehouse people can do the following things:

- Users can search extensions by name or as per the functionality.
- They can also install various extensions with a single click of a button.
- Or users can also control all the extensions from easy-to-use location in the My Extension page.

Extensions come with their connected licenses that enable users to use the extension. If an extension has a licensing problem, SketchUp won't load the extension and an error message will be shown. The status column on this error will help users to diagnose the actual problem.

Here is a list that will help users to outline the types of license errors and the way of resolving them:

- Expired Trial:

When an extension trial gets expired, users just need to buy the extension to continue using it. Users can buy the extension from the extension details page or from the My extension page. While downloading an extension from the Extension Warehouse through a web browser or from a developer's website it will come as an .rbz file that can be installed manually. Here are the steps to follow before installing: At first go to SketchUp and select the Extension Manager Option from Window menu, after clicking on it the Extension Manager window appears. Now click on the Install Extension button. The Open Dialog box will appear where users can find the .rbz file, just save it to the computer, select the file and click OK in Microsoft Windows or Open in Mac OS X. SketchUp will warn the users about installing only extensions from trusted sources just click OK option for further procedure and the extension will be installed. Purchasing Extensions in the 3D Warehouse: Anyone can purchase an extension through signing in to the Extension Warehouse or through any browser or SketchUp; but it is essential to sign in to the Extension Warehouse through SketchUp before installing a trial version or buying an extension. Here are some needed steps that need to follow before a purchase:

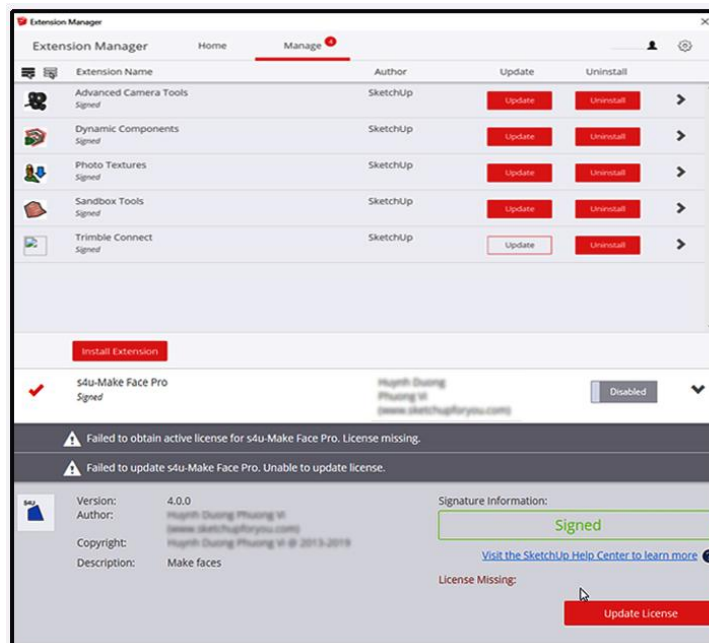
1. Go to the extension detail page and click the Purchase button.
2. In the prompted option, users have to enter their billing and payment information, billing information will verify the credit card, the receipt is emailed to the email address that user uses to sign in to Extension Warehouse.

The following steps is needed to install a trial or purchased extension:

3. Go to the SketchUp and select the Extension Warehouse from Windows and sign in to the Extension Warehouse.
4. Now search for the extension that is needed or go to the extensions details page and click Install Trial option.
5. Then go to the user menu and select the My Extensions option.

6. The My Extension tab will open scroll down to the trial extension or the purchased extension to install and click on either the Install Trial or Install link. Click yes to install.
- **Not Licensed:** This message indicates that SketchUp is not able to locate a license for the extension and if users installed the extension from the Extension Warehouse, then uninstall the extension, again restart SketchUp and again re-install the extension in some other way, next need to remove the extension manually and reinstall it from the Extension Warehouse.
 - **License Limit Exceeded:** Users can install a purchased extension on two different computers but it is installed in more than two, then this error will come.

Source: www.help.sketchup.com



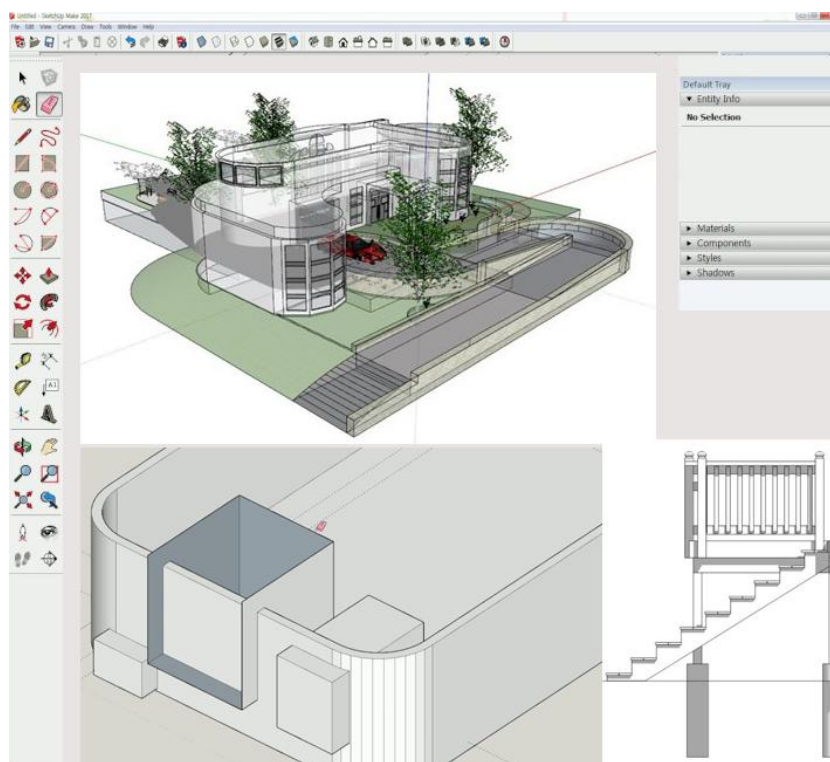
USING 3D PRINTER WITH SKETCHUP

SketchUp users can create wonderful 3D models with the help of SketchUp and can print them in 3D way through the help of 3D printers; it is a way better combination.

3D printing or additive manufacturing is way of making three dimensional solid objects from a digital life. The creation or making of a 3D printed object is achieved using additive processes and in this process, an object is made by laying down successive layers of material till the object is created. Each of these layers can be visible as a thinly sliced horizontal cross-section of the eventual object. So basically 3D printing is the opposite of subtractive manufacturing which is cutting out a piece of metal or plastic with for specimen a milling machine.

SketchUp and 3D printer are a perfect match; every new 3D printer's manufacturer will come with documentation to help users in learning the way of using printers and the related software. The following information will focus on a few basic concepts of 3D printing that are often not explained well and users get confused about them.

Aidan Chopra was a beloved member of the SketchUp team for 10 years; he is the creator of SketchUp Blog where SketchUp members and professionals share their new designs and tells some tips and tricks to design various designs that help users a lot. This Blog has attracted huge number of people and helps them to know more about SketchUp tools and extensions, moreover that users can now easily use SketchUp in their everyday life. Aidan also taught countless classes on SketchUp, he authored the SketchUp for Dummies Book. Users can get guidance here from creating a basic 3D model to showcase their work through 3D print or animation, literally everything in SketchUp that can help in anywhere like from redesigning the house to mocking up the future great invention. More than that, SketchUp's vast usability has gotten very wide success as a tool that even non-designers can also make basic drawings; there are also many expert tips from former SketchUp product director Aidan Chopra and co-author Rebecca Huehls that help to draw and access SketchUp.



Print often with SketchUp: We often assume that Desktop 3D printing is too much costly, but it is really, unbelievably and remarkably cheap. Let it make clear, look the cost for running a general desktop 3D printer is about 38.56 Rs/- an hour; after starting printer once it will continue working on design on its own. SketchUp models can be printed over and over and it will give perfect print every single time.

Like Test Printers which are great in catching errors and mistakes; they are also a great way to document the

evolution of a design. So always save a version of every SketchUp 3D model to print later and to find out the errors. Though there are some lacks also: these printers though use 3D printer's Low Quality setting to print faster but come with a rougher surface, they can't be edited after printing one time so it is better to keep copies.

Inside a SketchUp model: After creating the outer part of a model, it is way better to check out the inside part of a model as usually users let the 3D printer automatically do the inside part, filling it with automatically generated structure. But users can also make changes in them.

Source: www.dummies.com

SKETCHUP HUB'S TOP FIVE INTERIOR DESIGN TRENDS FOR 2019

SketchUp Hub always comes with new challenges every single time, this time they have come with Spring Design with some new ideas.

About SketchUp Hub: Anita Brown has established the SktchUp Hub 3D Visualization and here are a range of courses for helping Interior Designers and students, creating exact floor plans and elevations with a professional touch for the extreme benefit of their business or studies. The SketchUp Hub's total vision is to authorize Interior Designers especially women providing right technical abilities for making exact drawings and creative illusions at professional standards. Besides that, SketchUp Hub creates an available, engaged and fully supported learning environment for presenting the development of STEM related skills to a female driven industry.

In the month of January this year, the Sketchup Hub had announced their first ever 5 Day Challenge where they had challenged designers and SketchUp users to create an awesome kitchen design with the help of Free SketchUp download. The event was a big successful one and many people showed their wonderful skills where the best got the winner prize and made a place for his/her design. After that the SketchUp Hub has focused on designing the Interior sides of houses with elevations, these elevations are actually some kind of visual tools that allow Interior Designers to transfer perfectly their vision for a space, specifically they can work on the design of a wall and other items within nearly view.

After the January competition, SketchUp Hub is having a Spring Clean and has decided to adopt some of the more colorful and zesty interior design trends for this spring time. SketchUp Hub is shunning again their calm and cool Scandinavian vibe which will indulge much more vibrant and uplifting. This is a chance for the designers to step out from their comfort zone to incorporate colors, styles and patterns which they never tried as an Interior Designer. But before launching their final spring design, SketchUp Hub professional interior designers have made a list of things which should be included in the designs of competitors.

Top 5 Interior Designer Trends for 2019:

1. **Color:** Most interior designers are not comfortable using colors in their designs as they think it will provoke all kinds of nervous twitches, stone kicking and awkward silences. Though it is true that applying strong colors can be really scary thing but there are many other ways to add more color into lives without disturbing other decorations. It is the high time for designers

to put more colors in their designs, playing with the contrasts to make their designs happier, lively and more vibrant to watch as it is the time for spring.

2. **Pattern:** Another difficult task is to add pattern with color which is very difficult to show in a design, but the designers have to be brave enough to take this challenge. They can either play with one pattern or can mix and match different pattern types with vibrant colors.
3. **Natural Materials:** Designers can use some natural materials such as wood, marble and seagrass to dominate interiors as it is the new trend of 2019.
4. **Mid Century Design:** Applying Mid Century styling in the decorations adds a ridiculous amount of character and individually all types of interiors whether it is ultra modern, contemporary or traditional. A well designed, consistent design plan should have a good mix of styles where can be layers of shapes, here designers should be clever enough to highlight the basic interiors with Mid-Century touch.
5. **Mustard:** Though designers are asked to add colors but SketchUp hub designers have specially focused on Mustard Color to add a different look in this Spring designs.

Wish all the best to all the participants for their works.

Source: www.sketchuphub.com



CREATE A
CONNECTION
TO THE
OUTSIDE
WORLD
BY
INCLUDING
NATURAL
MATERIALS

SKETCHUP VIEWER WILL HELP TO EXPERIENCE ALL THE REALITIES

Mixed reality technology is a game changer to visualize designs and design options; SketchUp Viewer has introduced Windows Mixed Reality to review and approve designs.

The work process has changed a lot from past days, now the work is not bound in the desk or office anymore; actually it happens on the move. Now-a-days work has become more technology based and less place-based. The SketchUp Viewer family of products has dedicated from a long time to lubricating the wheels for their customers who want access to some simple and effective project collaboration tools on the world's leading mobile and XR platforms. The SketchUp team has proudly announced the release of new version of SketchUp Viewer for Virtual Reality which is the latest addition to the Viewer family. SketchUp Viewer for VR is consistent with Oculus Rift, HTC Vive and Vive Pro headsets also; moreover that, SketchUp Viewer also supports the plethora of Windows Mixed Reality VR headsets with the latest release of SketchUp Viewer for Windows Mixed Reality.

About VR or Virtual Reality:

Virtual Reality or VR is a new way of using computer technology in creating a simulated environment and its most recent added component is the head-mounted display or HMD. Human beings are visual creatures and display technology is often the single biggest difference between immersive VR systems and traditional user interfaces. Virtual Reality copies a realistic environment that allows builders to contact with a particular structure using a series of scanned images. It is an important form of automation as it uses programmed 3D scans that are very perfect and not prone to human error. It can simulate as many senses as possible like vision, hearing, touch even smell but the only limits to near-real VR experiences are the availability of content and low-cost computing power.

SketchUp Viewer for Windows Mixed Reality:

It has made possible to engage colleagues and clients in experimental design review which is a powerful and new way to measure, coordinate and communicate in mixed reality. With the use of any Windows Mixed Reality headset like VR or HoloLens, any team and teammates can virtually inhabit a design, helping to facilitate clear and efficient communication about complex spatial issues. Besides that there will be also the ability to interact with the designs as virtual or holographic scale models, supplementing or alleviating the need to build physical models of the projects. The application also has many of the viewing, navigation and information tools that SketchUp users are habituated in using; users can easily fly around the project models by choosing from the list of the scenes created in SketchUp or can toggle layer visibility on-and-off to control model visibility or can use the Tape Measure tool and Entity Info tool to get quick view about the model. SketchUp Viewer is free to install and needs that users sign in a Trimble

Account; just an active SketchUp Pro or SketchUp Studio subscription is needed to access all application features.

SketchUp team also updated the AR/VR Extension for SketchUp Pro for easily publishing SketchUp Projects to any AR/VR device. Here is a little description of all SketchUp viewer apps:

- SketchUp Viewer for Mobile: It gives the power to view designs on any iOS and Android device; also supports AR model viewing on ARKit and ARCore enabled devices.
- SketchUp Viewer for VR: It brings the projects to life in VR; this app supports Oculus Rift, HTC Vive and Vive Pro headsets. Users can download a Windows Installer from the My Apps page at sketchup.com.
- SketchUp Viewer for Windows Mixed Reality: It is designed to support the ever-expanding list of mixed reality headsets offered by Microsoft and its partners. It can be installed from the Microsoft Store and is available for users with an active SketchUp Pro or SketchUp Studio subscription.

Source: www.blog.sketchup.com



**SKETCHUP VIEWER WILL HELP TO EXPERIENCE
ALL THE REALITIES**

TIPS & TRICKS

CLEANUP3 TOOL FROM SKETCHUP EXTENSION WAREHOUSE

SketchUp is an essential tool in 3D printing and SketchUp Extension warehouse is full of tools that are essential in the 3D printing and creating 3D printed models, such as CleanUp3.

About CleanUp³:

CleanUp³ is an essential tool for 3D printing which is created by Thomas Thomassen, who is a Modelmaker with a large desire for physical, digital and traditional design in most genres of the trade. He has focused on webdesign/programming and 3d visualizations and he has specialized in 3D modeling, SketchUp, webdesign, graphic design and web programming. This tool checks and simplifies the geometry of every SketchUp model and it combines multiple faces, eliminates extraneous data and erases any lines that don't make a face.

CleanUp³ options:

Two of the most useful CleanUp3 options are Erase Duplicate Faces and Repair Split Edges, which can be enabled in the CleanUp3 menu. Usually Duplicate faces and split edges are errors that necessarily appear in the SketchUp 3D model while working in SketchUp and they drive 3D printer nuts. But both these two errors are difficult to recognize and repair manually. Besides that, it is also a great tool at simplifying STL files or 3D-printable files that need to import into SketchUp.

Features of CleanUp³

- It fixes duplicate component definition names in model scope
- Also clears unused items
- It can erase hidden geometry
- Also erases duplicate files
- Erases lovely edges except edges on cut plane

- Can remove edge material
- Repairs split edges
- Creates smooth and soft edges
- Then put edges and faces to Layer0
- Can merge identical materials
- Also merge connected co-planer faces

Menus & Toolbars: Plugins>CleanUp

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.

About Extension Warehouse:

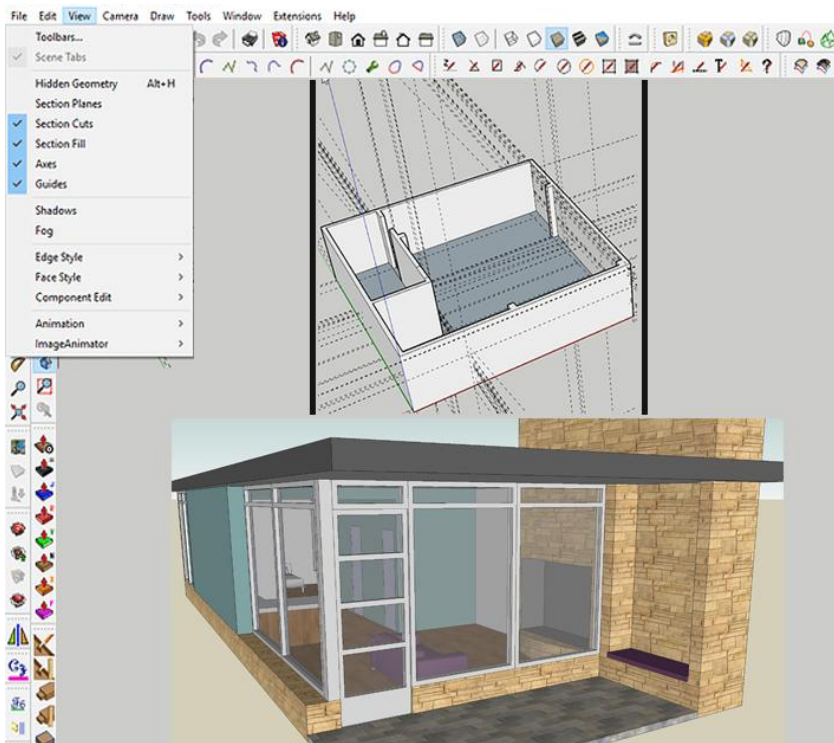
It is an online resource with various plug-ins developed made especially for SketchUp and these extensions help to add some special tools and features to SketchUp. These extensions can be found for any particular application like drawing or 3D printing and some industry specified tools for architecture, interior design, construction and many more. So basically in this Extension Warehouse people can do the following things:

- Users can search extensions by name or as per the functionality.
- They can also install various extensions with a single click of a button.
- Or users can also control all the extensions from easy-to-use location in the My Extension page.

Source: www.extensions.sketchup.com

a Tape Measure icon that has 2 models of measuring. With this tool, users can measure a distance and set precise guidelines or guide points. While the Protractor tool enables users to measure angles and set a precise angled guide line.

Using Measure mode: It is a wonderful way to report measurements from a point to many points; to change to a new measuring point just press ESC key and pick a new point to measure from. This mode also acts like a scale in the model and this method is a global resize which means not only the model is resized before but can be done with an object locally.



Guiding Create mode in SketchUp:

In this mode, the Tape Measure Tool allows the users to plot guide lines and points in SketchUp to accurately draw in the workspace. This mode has also different methods of drawing guides and it totally depends on the clicked place and subject. 1) Infinite Guide lines in SketchUp is created when users glide on an edge in SketchUp and click it but while creating the infinite guides using the array commands isn't possible.

2) To create guide lines that terminate with a construction point, users need to first select an endpoint then select the desired direction and length of the measurement.

Deleting Guide lines in SketchUp: The Select tool or the Erase tool can help to target and remove areas but the Delete Guides option in the Edit menu which will delete all lines and points within the current context of the model. So if the user is within a group or component and choose this option then it will remove all guides within that context but not outside.

Managing and deleting Guide lines in SketchUp using extensions: The right way to manage guide lines and guide points in SketchUp by using an extension which is known as TIG's Construction Line Delete via Context extension that extends SketchUp by adding further options while Right clicking in an existing Guide Line. To install this extension, users need to go to the Extension Store in SketchUp, then need to search feature and type guide and choose the extension and install it. Now in SketchUp, users have access to more deletion and layer management options for Guide Lines and Points via the context menu; this option also has placing Guide Lines and Guide Points on dedicated layers, deleting Guide Line and Guide Points from the active selection or applying it to both Guide Lines and Guide Points.

ABOUT MACIEJ FIJALOWSKI OF VR SKETCH

Maciej Fijalkowski is the one member among the founders of the VR Sketch in SketchUp, he and his team is working on developing VR with SketchUp to make it more accessible.

Maciej Fijalkowski is the surfer, programmer and climbing gym designer about the current state of VR industry and the one behind the VR Sketch extension. He is basically from Łódź, Poland but now living at Cape Town Area, South Africa. He went to Warsaw for study; he always wanted to go and study abroad but couldn't afford so he started to explore more as a traveler. He also worked at the University of Warsaw at the Center for Mathematical and Computational Modeling; while working there and being a student he got into Google Summer of Code and became interested in Pypy.

Later his company has introduced a new concept into the Sketch Up word with VR Sketch which enables the creation, manipulation and presentation of models in a fully immersive virtual reality environment.

A little about VR Sketch: It is an extension for SketchUp which gives anyone the ability to create, edit and view their models in Virtual Reality. It also gives designers the ability to communicate space that clearly allows them well informed decisions to make with instant feedback. VR Sketch is a small but a dynamic company which plans to revolutionize the thinking of people about the way of design and faster design. The landscape of hardware abilities will only improve and everyone can see more and more design work done in VR. Sketch will keep iterating quickly to deliver cutting edge solutions for more years.

Inspiration behind VR Sketch: As per his words, during the process of designing and creating a new rock climbing gym, he purchased a VR headset as a help in visualizing projects. Though SktechUp is a very easy to learn but it can be difficult while mapping of 2D screens to 3D space. So they thought to make something which will help to solve this problem and thus they started the company in April 2018. Maciej is now living in Cape Town with his co-founder, Duncan Fraser who is an architect and travels often.

Projects: The team has handled many things together in past but from a long time they only focused on a project called Pypy which is an open source software for a faster way to run Python code. VR Sketch is their first venture into architecture and design which has introduced to the through SketchUp 3D Basecamp with greater diversity in those attending versus the Python conferences. VR Sketch needs less of any skills which a trained architect must have and helps architects to work more easily on the 3D models.

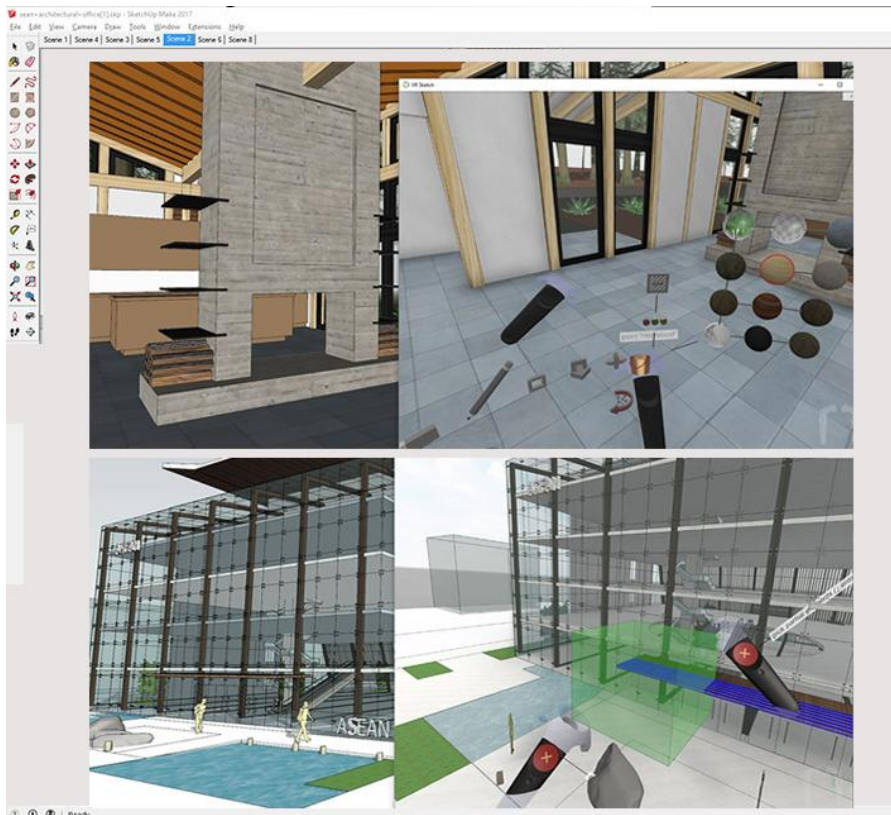
VR Sketch works with all the high-end hardware like HTC Vive, Oculus Rift those with touch controllers and some mixed reality headsets. They have been working on more major headsets which will be function by Oculus Quest. The team has focused on doing things well for the higher-end devices and consider the availability of any design tool to be a main consideration.

Industry trends to follow for future app development: According to them, much of 3D design will move into the VR space and everyone will see huge iterations in hardware design. Headsets will be lighter and more affordable and controllers will be less clumsy. Software side will also be upgraded with major changes; this huge evolution and interconnection between hardware and software in the VR industry will create many more opportunities for them. Now they are

working on a cloud-enabled collaboration which help users in working on a model with distant team members simultaneously and keep a full version control.

Dream Project: He is really interested in urban design and with an unlimited budget, he would be involved in developing a “Chartered City” as theorized by Paul Romer, where it is possible to play with new ideas every time.

Source: www.blog.sketchup.com



GOING FROM SKETCHUP TO UNITY USING PBR MATERIALS

SketchUp users are pro in creating different textures and models using various textures from the Extension Warehouse; similarly they can go from SketchUp to Unity with PBR materials.

This article will clearly describes about PBR materials and the way of going back on the PBR to Unity 5.6 pipeline workflow for SketchUp through some easy steps.

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.

PBR: PBR or Physically Based Rendering is a method of shading and rendering that provides a more perfect representation of how light interacts with the surfaces. PBR is also referred to as Physically Based Shading depending on the aspect of pipeline being discussed; PBR is usually specific to shading concepts and specific to rendering and lighting. Though, both these terms describe the process of representing assets from a physically accurate standpoint.

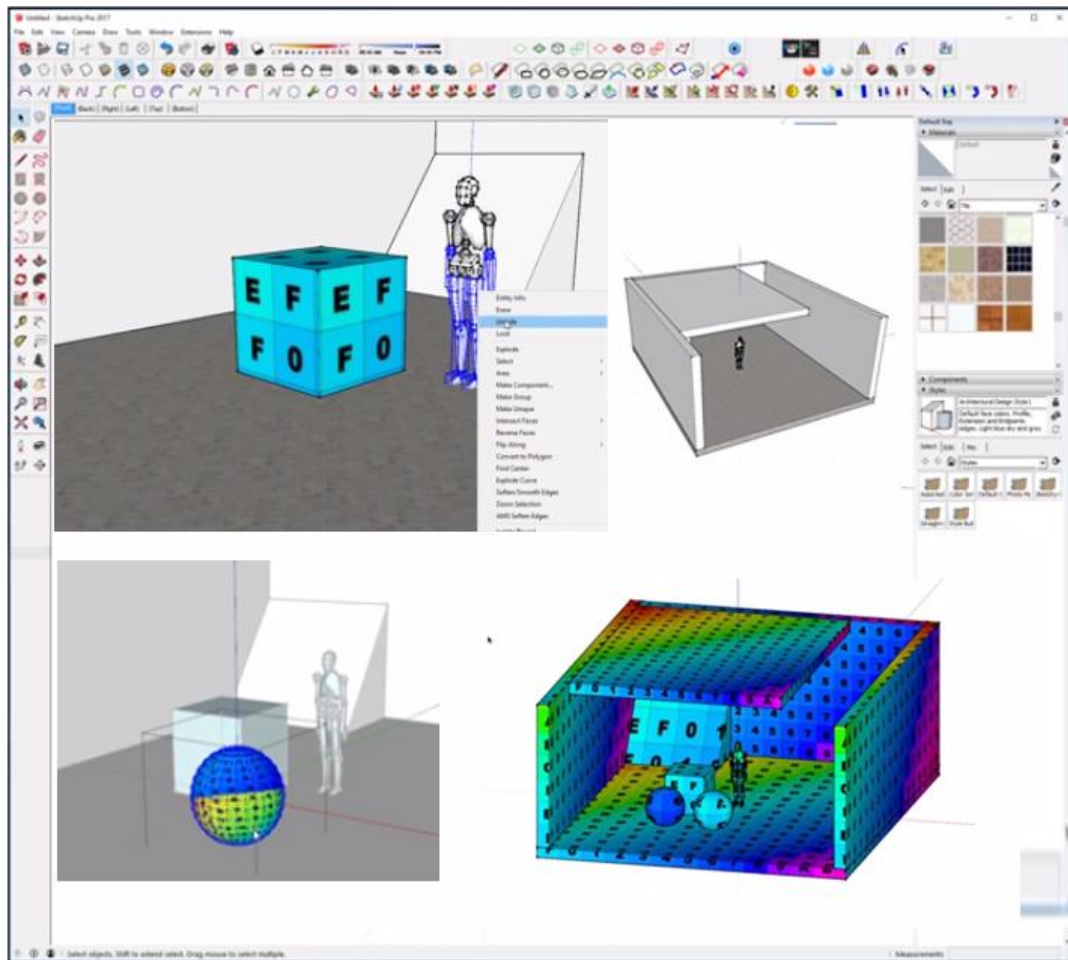
SketchUV: It is an UV mapping tool which is used to draw spherical, cylindrical, planer, tube, box, quad shapes and can do save, load, export and import. SketchUV is designed to be easier to use and UV mapping in general takes some time to get use to. The features are noted here:

- It can draw planar, cylindrical and spherical UV projections at any orientation
- It can be used in Box mapping
- Tube mapping- it can be a great tool for objects created using follow-me tool
- It can do Quad face mapping
- It can also move, rotate and scale UVs
- It can draw Triangulate geometry and remove distorted textures
- It also save UVs and Load UVs where change materials and maintain UVs
- It can export and import UVs using third party UV mapping software

Steps to go from SketchUp to Unity using PBR material:

- Before beginning the process users need to install SketchUV extension for SketchUp from Extension Warehouse.
- Then took the PBR textures and apply it on the model.
- At last use the Pixplant for seamless texture and render map creation as this is powerful and easy to use.
- **For detailed process go to www.sketchucation.com**

Source: www.sketchucation.com



ADVANCED TEMPLATES IN SKETCHUP PRO

With the new upgrade version SketchUp Pro has introduced twelve new templates for SketchUp Extension Warehouse to make modeling in SketchUp more fun than before.

According to the developers, SketchUp Free is the simplest, consistent 3D modeling till date that will help the user to access, learn and share the models with others easily. It has been more than a year at SKetchUp Headquarters with huge amounts of coffee consumed and after a long wait, SketchUp HQ finally released SketchUp Pro's new version SketchUp Pro 2019.

The whole SketchUp team has been discussing to bring SketchUp lovers the newest development in the life of their products; they proudly announced a brand new way to purchase all the SketchUp products which is the SketchUp Subscription. They have offered the best value so that users and SketchUp lovers can easily choose the perfect combination of SketchUp for every project, workflow or creative concept.

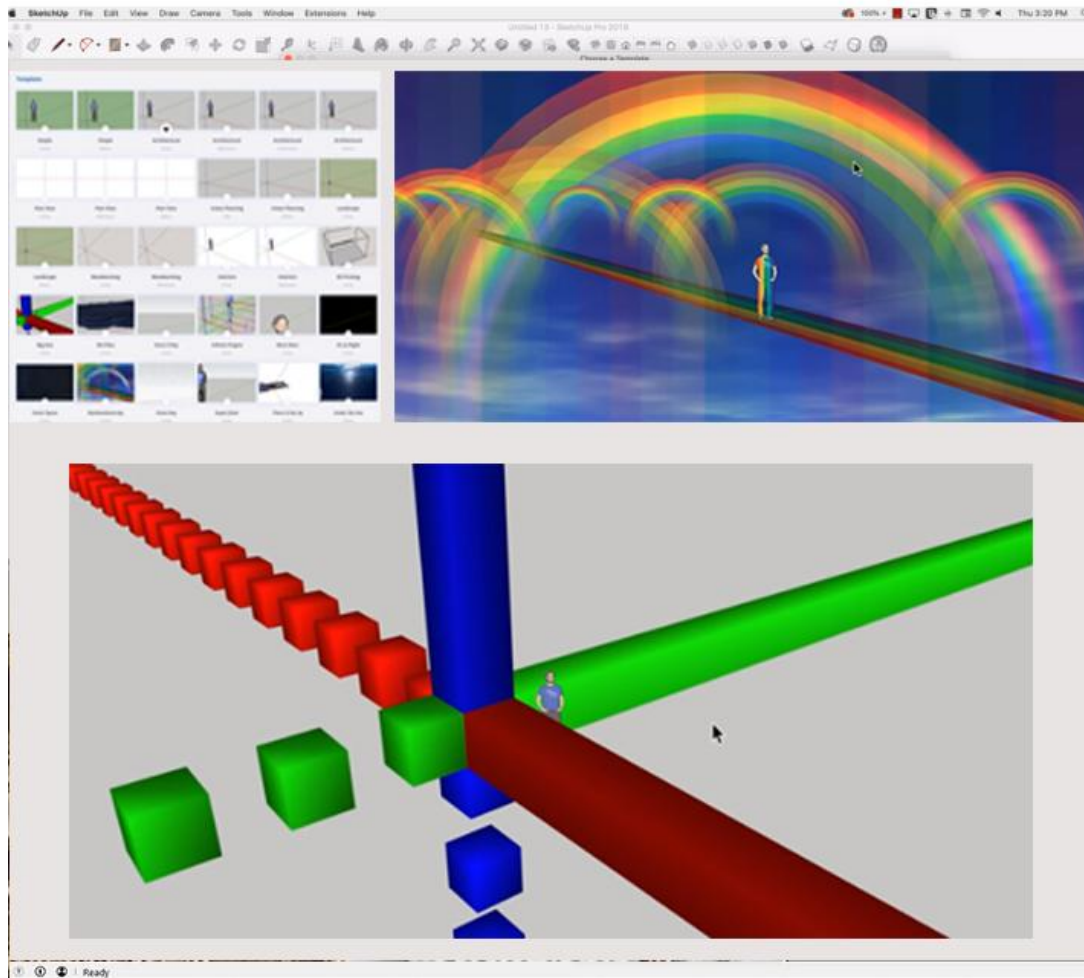
This is a real opportunity to challenge the team itself to earn users' business every single day by continuously improving the tools which are needed and loved whole year. The new ways to buy SketchUp is on their website; still the team has been working to bring subscriptions for years as according them it is the best way to deliver more value to the users in a single package. Their shift in new business will make it easier for new users to buy SketchUp and for current users; even more SketchUp products can be easily available. Besides that, this shift in business will help to keep them accountable to run business by releasing new features as often as possible; this is a challenge for them which they have taken proudly and moved process from an annual update cycle to a continuous cycle.

SketchUp users have introduced with the new features of SketchUp Pro 2019 and with this the SketchUp team has added 12 new templates to make modeling in SketchUp more fun. Here are the names of the templates mentioned below:

- Extra X-Ray Template
- Super jitter Template
- Big Axis Template
- Outer Space Template
- Under The Sea
- Snow Day Template
- More Marc
- Bird Box Challenge Template
- Rainbowland Template
- There Is No Up Template
- Infinite Origins Template
- Night Time Template

Some of them include the mode "Dark mode" for the night time designs; "Rainbowland" is a little happier and more colorful while "Big Axis" helps to get back in the axis again. These new templates can be accessed by pulling them up in the template directory and scrolling towards the bottom.

Source: www.blog.sketchup.com



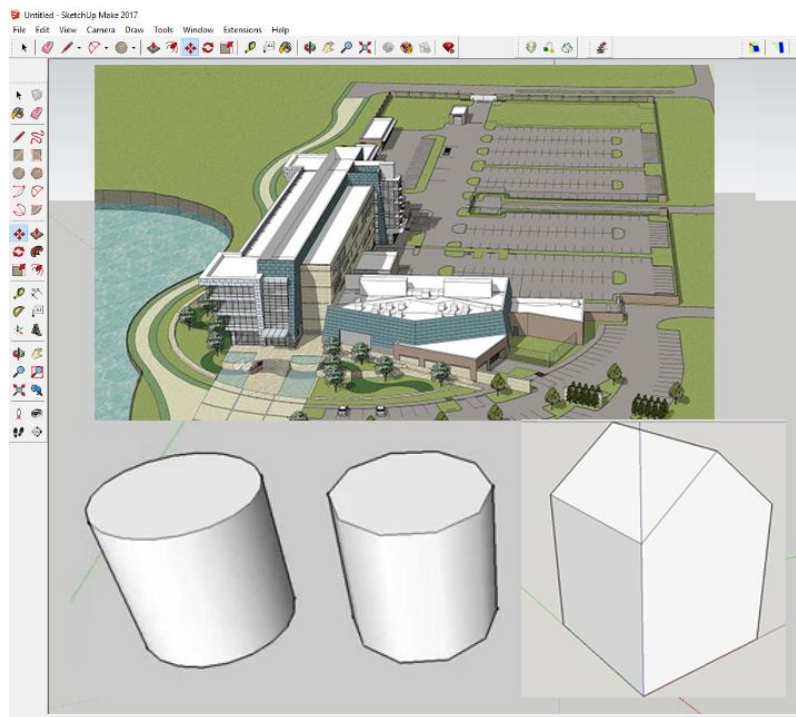
CREATING POLYGONS IN SKETCHUP IN 5 SECONDS

SketchUp is full of various 3D models, tools and extensions which is a little tough to handle for beginners, creating a Polygon in SketchUp with some easy tools is good start for beginners.

Creating different figures in SketchUp is an easy work which can be done with the help of some tools found in this software. In every article we discuss about some complex thing which can't be done without applying lots of extensions and tools but these are strictly for professionals who have been using SketchUp for over years. Beginners or novice users are not fully aware about all these extensions, that's why we have come up with a simple item this time which can be useful for them

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.

In this article, we will see the steps of creating a polygon using some simple tools in SketchUp but before that we need to know a little bit about polygon.

The Polygons are mainly two-dimensional closed figure which are made up of some straight lines and here each line segments intersects exactly at the endpoints.

Creating equilateral polygons in SketchUp is just a matter of seconds as it is not necessary to draw each side manually. Here are the steps:

- At first users need to select the Shape tool from the toolbar or can press C for the shortcut.
- At the bottom right corner there is a status bar where they need to specify the number of sides after selecting the shape tool. Here users can type anew number and SketchUp will make a new equilateral shape with that number of sides.
- After specifying the number of sides, SketchUp will ask for the radius of polygon and it will be an inscribed polygon.

Source: www.designerhacks.com

HELIX ALONG CURVE PLUGIN FOR SKETCHUP

Helix Along Curve is another Plugin from SketchUp Extension Warehouse which helps to create helix tubing along a pre-picked curve in SketchUp.

SketchUp Extension is full of many plugins which help to create various kinds of 3D models and also helpful in 3D printing for any project. Helix Along Curve is another extension from the SketchUp Extension Warehouse which creates helix tubing along a pre-picked curve in SketchUp. The dialog in it is used to set several parameters and options; it can be used to create helical shapes such as springs, seams and many more.

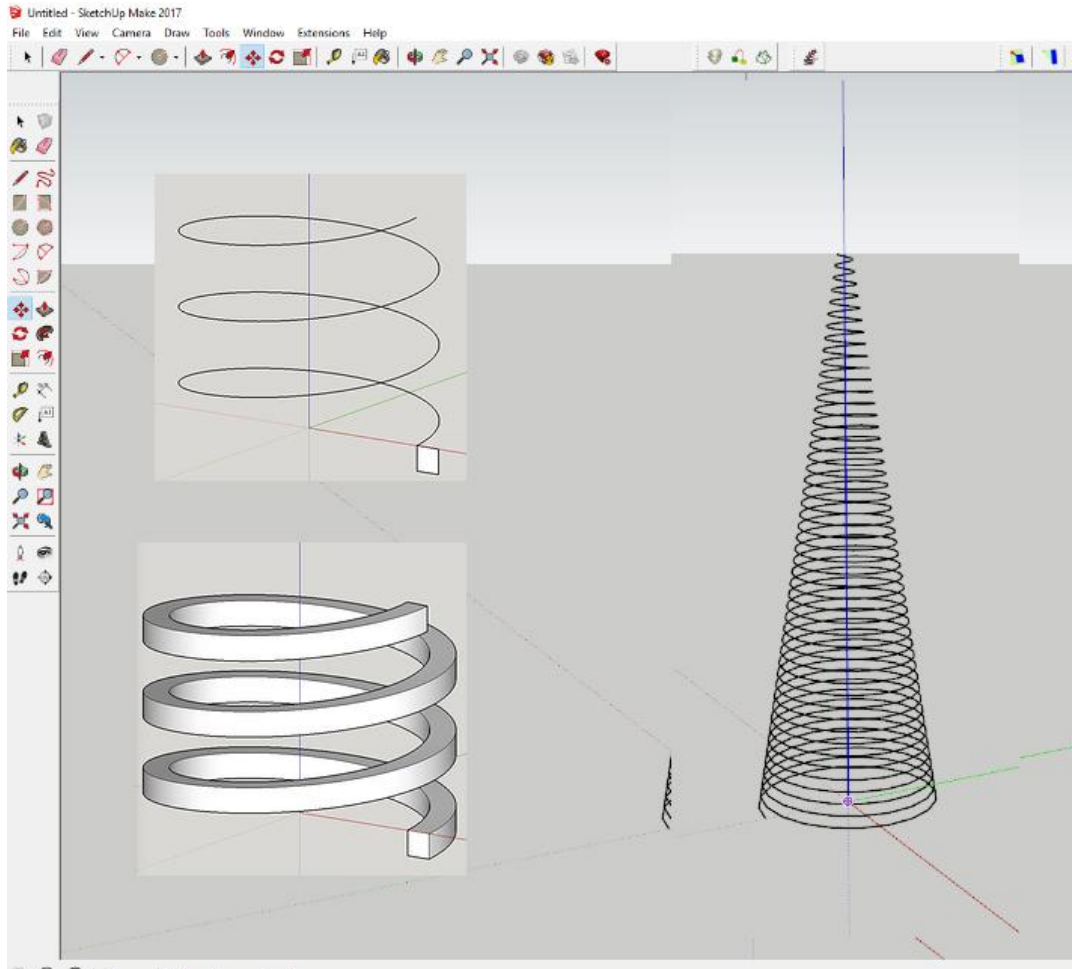
About Extension Warehouse: It is an online resource with various plug-ins developed especially for SketchUp and these extensions help to add some special tools and features to SketchUp. These extensions can be found for any particular application like drawing or 3D printing and some industry specified tools for architecture, interior design, construction and many more. So basically in this Extension Warehouse people can do the following things:

- Users can search extensions by name or as per the functionality.
- They can also install various extensions with a single click of a button.
- Or users can also control all the extensions from easy-to-use location in the My Extension page.

Helix Along Curve extension initially grew with the need of covering some design requires in some personal projects. This plugin also allows creating different types of helix easily and quickly by previously selecting a line or curve which can be opened or closed. The program will automatically guess this and ask to generate a closed propeller in the case of a closed curve.

Here are some different options that can be done with the help of this extension:

- Users can give a value for the start radius of the propeller and another for the end.
- They can also define the number of turns of the helicoids.
- This extension can specify the number of straight parts that invent each spin of the helicoid.
- It modifies the helix construction start angle.
- If users set the level of 'noise' then they can add a different random value related to the radius of each turn of the helicoids. Here the intensity of the noise will be greater when the value entered is closer to 1.



- Users can choose between five different options for a parameter called “adherence to the curve” which allows them to know whether the helicoids will follow the curve strictly and suddenly or smoothly.
- There is an option called “Calculation mode” which overview in a simple way multiple internal parameters that would be difficult to understand; in this matter, users can soften the curve a little bit.
- There is a possibility to specify the direction of rotation of the helicoid.
- Users can create the helicoid only with lines or with a circular tube.
- If they choose to create the tube, can define its radius and also can specify the number of sides of the tube.

Source: www.3dalbertsoft.wordpress.com

INTRODUCING SKETCHUP CAMPUS

SketchUp team always tries to make the experience with SketchUp better and unique every time for the users, when users demand a new place of learning skills they started SketchUp Campus.

SketchUp learners and users always demand something more from SketchUp professionals and SketchUp team; all the users and beginners want something new where they go through all the SketchUp plugins, guidance to work on it and many more designs which can be used in their further projects. From this demand, the idea of SketchUp Campus has come where users can learn more deeply about contents also share their ideas with others.

About SketchUp:

SketchUp or Google SketchUp is owned by Trimble Inc., a mapping, surveying and navigation company. It 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 Campus: It is a unique, profound learning place with SketchUp-approved courses which all are created by SketchUp team members to make the learning of SketchUp more suitable and simpler than before. More than that, SketchUp courses and transcripts are translated into over 100 languages to become understand by all the users over the world. The languages are:

- English, Afrikaans, Albanian, Amharic, Arabic, Armenian, Azerbaijani, Basque, Belarusian, Bengali, Bosnian, Bulgarian, Catalan, Cebuano, Chichewa, Chinese (Simplified), Chinese (Traditional), Corsican, Croatian, Czech, Danish, Dutch, Esperanto, Estonian, Filipino, Finnish, French, Frisian, Galician, Georgian, German, Greek, Gujarati, Haitian, Creole, Hausa, Hawaiian, Hebrew, Hindi, Hmong, Hungarian, Icelandic, Igbo, Indonesian, Irish, Italian, Japanese, Javanese, Kannada, Kazakh, Khmer, Korean, Kurdish (Kurmanji), Kyrgyz, Lao, Latin, Latvian, Lithuanian, Luxembourgish, Macedonian, Malagasy, Malay, Malayalam, Maltese, Maori, Marathi, Mongolian, Myanmar (Burmese), Nepali, Norwegian, Pashto, Persian, Polish, Portuguese, Punjabi, Romanian, Russian, Samoan, Scottish, Gaelic, Serbian, Sesotho, Shona, Sindhi, Sinhala,

Slovak, Slovenian, Somali, Spanish, Sudanese, Swahili, Swedish, Tajik, Tamil, Telugu, Thai, Turkish, Ukrainian, Urdu, Uzbek, Vietnamese, Welsh, Xhosa, Yiddish, Yoruba, Zulu.



SketchUp Campus helps users to roam from SketchUp beginners to professional with different tracks and consecutive courses to make a speedy tour. The courses are divided in short videos and quizzes which help to learn topics like Rendering with Photoshop, Layout and SketchUp Fundamentals fun, quick and easy. All the quiz answers provide

quick feedback and help the users to find out their successive places and the places where improvement is needed.

These courses can be taken at users' own speed and repeat them as per their need; more than that, users can track their progress and understand their lacks, no matter where they start or stop.

Procedure to get SketchUp Courses start: The following steps will help to start the course:

- Go to the following path- <https://learn.sketchup.com/>
- Then sign in with SketchUp login or the Google account
- Now choose a track and start to learn what you want

The best part is that, the learning library will develop over time which will help to grow skills of every user. SketchUp team is eagerly waiting for the responses of the users about this Campus, it's learning process or any kind of addition, improvement which is needed.

Source: www.blog.sketchup.com