



```
require 'net/http'
URL = "http://lookup1.paradigmone.com.au"
#
# Lookup supplied mobile number
#
def lookup(service_number)
  url = "#{URL}?serviceNumber=#{service_number}"
  response = Net::HTTP.get_response(URI.parse(url))
  if response.code == '200'
    return response.body
  end
  # ...you would also need to handle errors here
  # 404 = Number not found
  # 400 = Invalid request
  # Timeout / No response then switch to other URL
end
```



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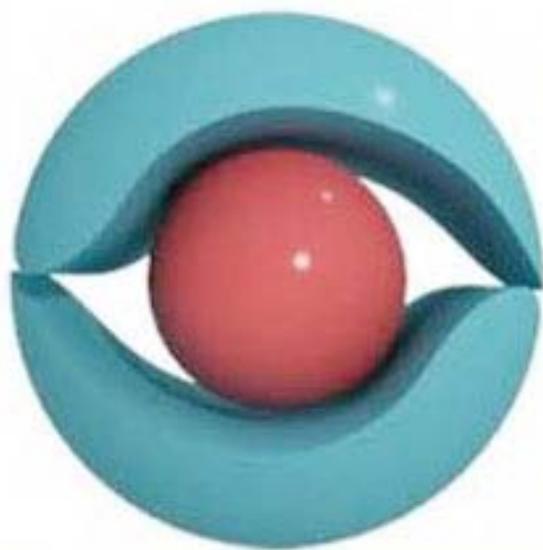
The Hatchway leading to the world of 3D

Jim Leggitt
Thom Thom
Hussain Fadlallah
Klara Theresya
Jeferson Olortegui Lopez

Ruby Script and SketchUp



AR-Media Plugin (Professional Lite)
for Google(TM) SketchUp(TM)



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AUGMENTED REALITY MEDIA

AR-Media Plugin (Professional)
for Google(TM) SketchUp(TM)



AR Media Plug in

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A Letter to the desk of the Editor

Hello Folks! We are once again bringing to you another spectacular issue of Sketchup ur Space. We want to apologies for the disturbance on our site. Due to some internal problem and maintenance our site www.sketchup-ur-space.com was down for some day. We were trying our level best to give you the best service in SketchUp. I apologize on behalf of the Sketchup ur Space team for the trouble you had faced to access the magazine. Hope that in future you will never face any such problem.

In this time of early spring your creativity must have been charged up. So take chance of this and create some plug ins with the help of Ruby Scripts to give more power to SketchUp. For this March issue we are focusing on the Ruby Scripts for Google SketchUp. You can create customized plugin for your 3D models with its help. So don't waste your time. Try to do something new in Google SketchUp and don't forget to share it with us.

Apart from this topic there are much more subjects on the March issue of SketchUp ur Space which will arouse your interest on SketchUp. Thomas Thomassen aka Thom Thom shares with us some nice tips for the plugin developers for Google SketchUp. Hussain Fadlallah shows how to enhance the responsiveness of your model. [Jeferson Olortegui Lopez](#) tells us his story with SketchUp. Klara Theresya teaches us how to 3d curving in Google SketchUp. Jim Leggitt was not only shows some style in the blog, here we have a cordial chit chat with him on SketchUp some other things.



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Hope that you will like this publication of Sketchup ur Space. We will love to hear feedback from you. Please send me your views
atdebarati@sketchup4architect.com.

Happy Reading!

KNOWLEDGE IS THAT FRUIT THAT GROWS BIGGER WHEN SHARED!



Best wishes

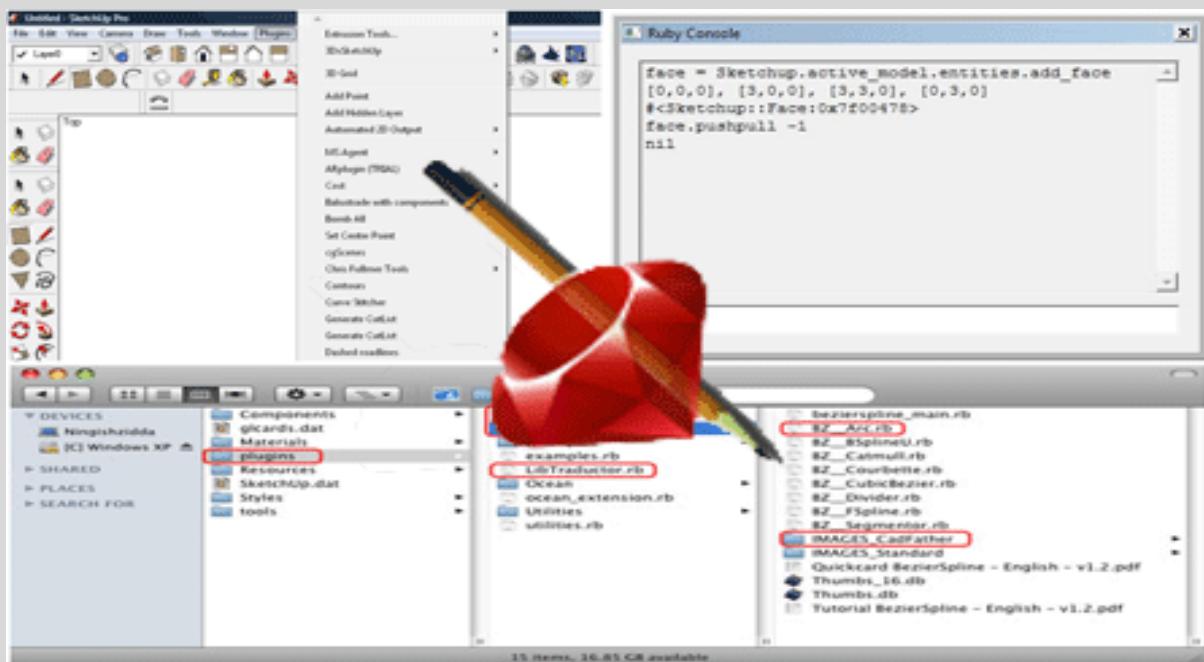
Debarati Nath

Editor

For any feedback and query please mail us
in atdebarati@sketchup4architect.com



Ruby Script and SketchUp The Super Combi Pack



Author: Debarati Nath

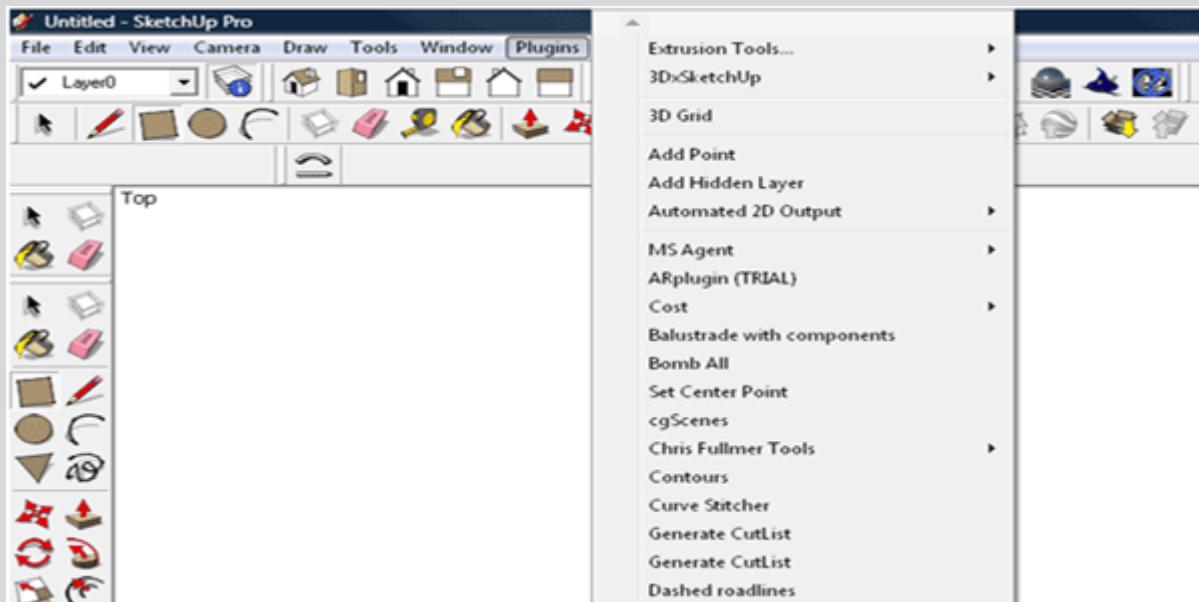
We know that Google SketchUp is cult software which created an awesome impact on 3D industry. You can create a box or a table or a building or a bridge with the help of this magic tool. But we always like to enhance the functionalities of this software. And for this reason we like to add the plug ins with SketchUp to get the finest result in 3D modeling. Various types of plug ins like rendering, performance analyzer and many others are available which are helping SketchUp to serve well. With the help of Ruby, the programming language you can use to write the scripts of the plugins of SketchUp. You can easily improve the way you work with SketchUp by installing the Ruby Scripts which can add tools, simplify multi-step operation.

Ruby Script is a dynamic, general purpose object-oriented programming language with a focus on simplicity and productivity. Ruby was first designed and developed in the mid-1990s by Yukihiro "Matz" Matsumoto in Japan. The creator, Yukihiro "matz" Matsumoto, combined parts of his



favorite languages (Perl, Smalltalk, Eiffel, Ada, and Lisp) to form a new language that balanced functional programming with imperative programming. Building on this, he adds "Ruby is simple in appearance, but is very complex inside, just like our human body".

You don't need to be an expert in programming language to write a program in Ruby script. You can take help from the pre made Ruby Scripts and can extend the capability of Google SketchUp. A SketchUp plugin adds extra functionality to the overall application, such as new menu items, new tools in the toolbar, new dialog boxes, and many other possibilities with existing built-in properties. A plugin is just a SketchUp script in the right directory.



Ruby is a language of careful balance with following advantages:

1. **Object oriented approach:** In Ruby, everything is an object. Every bit of information and code can be given their own properties and actions. Object-oriented programming calls properties by the name *instance variables* and actions are known as *methods*. Ruby's pure object-oriented approach is most commonly demonstrated by a bit of code which applies an action to a number.



2. **Flexibility:** It allows its users to freely alter its parts. Essential parts of Ruby can be removed or redefined as well. Existing parts can be modified. Ruby tries not to restrict the coder. You can redefine the operators as well.
3. "**Mixin" functionality by module:** Ruby allows single inheritance only, on purpose. But Ruby knows the concept of modules (called Categories in Objective-C). Modules are collections of methods. Classes can mixin a module and receive all its methods for free. Generally, this is much clearer way than multiple inheritances.
4. **Ruby needs no variable declarations.** It uses simple naming conventions to denote the scope of variables. For e.g. var could be a local variable, @var is an instance variable, \$var is a global variable.
5. **Block:** Ruby's blocks are also seen as a source of great flexibility. A programmer can attach a closure to any method, describing how that method should act. The closure is called a *block* and has become one of the most popular features for newcomers to Ruby from other imperative languages like PHP or Visual Basic.
6. **Ruby is highly portable:** It is developed mostly on GNU/Linux, but works on approx all versions of UNIX, Mac OS X, Windows 95/98/Me/NT/2000/XP, DOS, BeOS, OS/2, etc.
7. **Less Hardware requirements:** The hardware requirements for installing Ruby are the same as the hardware requirements for the underlying operating system on which you have chosen to run Ruby. Therefore, you do not require any special hardware for installing Ruby.
8. Ruby has **exception handling** features, like Java or Python, to make it easy to handle errors.
9. Ruby can load extension libraries dynamically if an OS allows.



10. Ruby features **OS independent threading**. Thus, for all platforms on which Ruby runs, you also have **multithreading**, regardless of if the OS supports it or not, even on MS-DOS!
11. Ruby features a true **mark-and-sweep garbage collector** for all Ruby objects. No need to maintain reference counts in extension libraries.

Writing C extensions in Ruby is easier than in Perl or Python, with a very elegant API for calling Ruby from C. This includes calls for embedding Ruby in software, for use as a scripting language. A SWIG interface is also available.

If you want to write plugins for Google SketchUp then it will be best for you to use Sketchup's Ruby API. You can write your own tool with the help of this API and in this way you can query and influence the SketchUp models. This process is working both of the free and pro versions of Google SketchUp. And the best part of this SketchUp Ruby API is that it is free.

The screenshot shows the SketchUp Ruby Console window. The code entered is:

```
face = Sketchup.active_model.entities.add_face
[0,0,0], [3,0,0], [3,3,0], [0,3,0]
#<Sketchup::Face:0x7f00478>
face.pushpull -1
nil
```

The console output shows the creation of a new face and its pushpull operation.

But how to start with it? Here is the step by step instruction on how to install and start with Ruby Scripts.

1. Download the Ruby onto your computer.
2. If the downloaded file is zipped, unzip it. You can usually do this by double-clicking on it. Unzipped Ruby Script files have the following file extension: .rb



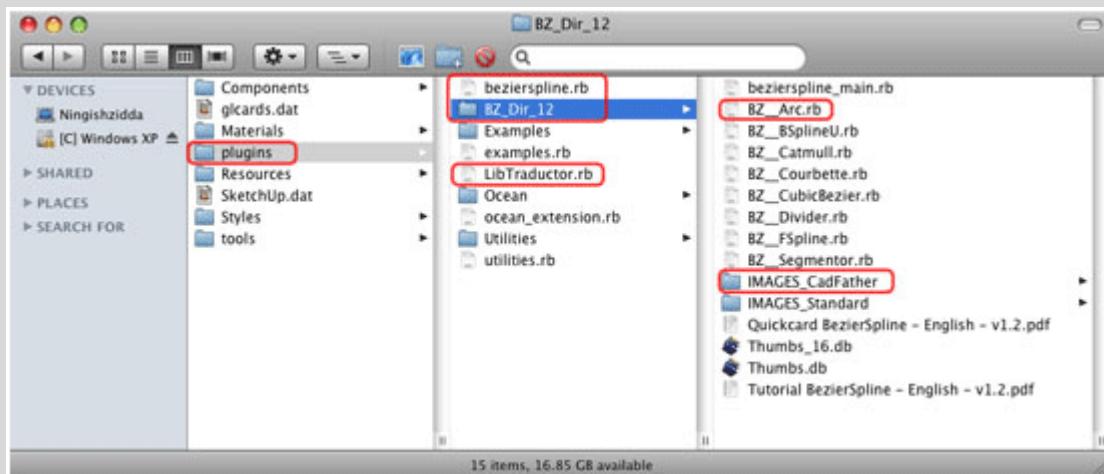
3. Close SketchUp if it's running.
4. Copy the Ruby Script file into the right location for your operating system:

Windows: C:/Program Files/Google/Google SketchUp 8/Plugins

Mac OS X: 'Hard Drive'/Library/Application Support/Google SketchUp 8/SketchUp/Plugins

There are plugins like Ruby Web Console, available to download free of cost which are used to simplify the whole operation. You can just take help of pre-programmed plugins and guide book and can write customized plugins for Google SketchUp.

The location of the Ruby script's controls may be varied due to the scripts. Some can access it through the menu system and others by right clicking on the elements of the model. Few scripts of the Ruby have own dialogue boxes and others' dialogue boxes don't appear in the interface of the SketchUp users which are the only reference scripts which is providing the extra functionality for SketchUp.



There are many renowned Google SketchUp plugin programmers in Ruby Script like Thomas Thomassen, Jim Folts, Alexander Schreyer, Didier Bur who are writing plugins to enhance the functionality of Google SketchUp. You can find scripts of plug ins in the website Ruby Library Depot.



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Rendezvous with Jim Leggitt the Godfather of sketchup style



LEG
GIII

Interviewer: Debarati Nath

1. Hello Jim! Welcome to the space of SketchUp. Please tell us something about yourself.

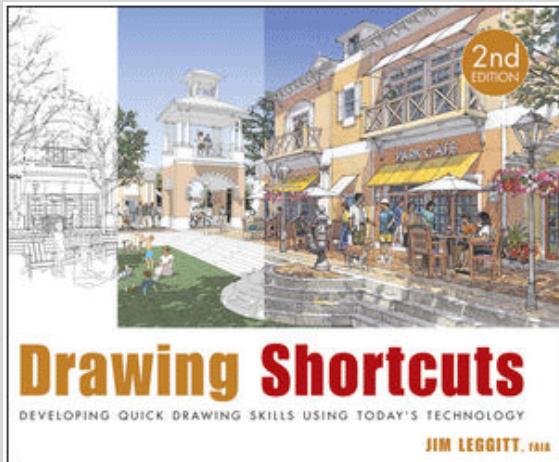
I am an architect living in Denver, Colorado USA and I have always loved hand drawing using technology since I was a five years old when I learned to draw from a television program named "Jon Gnagy Learn to Draw" where we watched the artist sketch on television and copied his drawing technique. Since then I've learned to integrate photography and now 3D models in the design visualization process at my planning and landscape design firm studioINSITE. I love teaching drawing to other design professionals and students. I offer several drawing workshops every year in Denver and travel throughout the United States and Canada giving workshops to universities and design firms. My wife Janice is an accomplished collage artist, my son Hunter is an architect in Los Angeles, my daughter Gretchen teaches art at a private school in Seattle and my



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other daughter Kelsey is a ballet major at Indiana University. I am very honored to have such a creative family and friends!



2. How do you find SketchUp?

I learned SketchUp in 2001 when it was first developed. I live just a 30-minute drive from Boulder, Colorado where SketchUp originated. I soon developed close friendships with the key individuals at the company which was named @Last Software and became one of their early promoters of SketchUp. I quickly discovered how to combine 3D SketchUp models with hand drawing and even produced a global webinar series with them about the integration of hand drawing with SketchUp models!

3. You are an architect, urban planner, designer, writer and lecturer. How do you manage all of your avatars at a time?

I am a firm believer that in order to truly be productive, one must develop many different skills and design interests. Instead of being accomplished in only one discipline, I would much rather learn many different design skills and know how to combine them together into new creative directions. A complete designer must have an equal appreciation for urban planning, architecture, landscape architecture, interior design, industrial design and graphic design. Successful designers (and that applies to students as well) must also know how to efficiently manage their time and resources. I have so many different ideas and tasks to



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accomplish that I daily write down a list in the morning of what needs to be done that day.



4. How do you utilize SketchUp in your work?

SketchUp has become a valuable design tool in my workplace. I create simple 3D models to use as base images for sketches, I create massing models for urban design projects and occasionally build detailed presentation models for architectural designs. Having integrated SketchUp into my design process this past decade, I sometimes wonder how we designed projects before SketchUp was invented! Now I find it hard to design any project without using some form of a 3D model.

5. From where did you get inspiration of blending SketchUp and hand drawing?

I've been merging hand drawings with photographs long before computer models. Prior to using SketchUp, I relied on others to build AutoCAD and Form Z models for me as I did not have those computer skills. When SketchUp arrived in the profession, I quickly taught myself how to model and discovered that I could now build my own models with accurate perspectives and populate scenes with people, trees, furniture, signage and entourage. I also realized that a SketchUp model alone could not convey enough character, color or humanity, and by integrating hand



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drawing with the computer model view, I could give the scene much more of a "hand crafted" and authentic appearance. Clients responded quite positively to these friendly looking visuals!

6. You are the god father of SketchUp style. How do you manage to create such vast range of style?

I love to experiment with different ways to combine technology with traditional hand drawing techniques. I'm thrilled to see many professional illustrators creating exciting hybrid visualizations that combine SketchUp modeling, digital painting, photography and digital effects. I was once inspired by a friend who made incredible meals by combining different ingredients together while not following any cook book recipe. I've carried that attitude of discovery and experimentation into my work by finding new ways to combine different visualization tools and techniques. We are in an exciting "visual evolution" in which designers around the world are discovering new ways to communicate design ideas to clients.



7. Tell us something about your hobby?

Living in Colorado with its beautiful mountains allowed me as a younger person to experience many outdoor activities such as rock climbing, running, river kayaking, hiking, camping, skiing and mountain biking. I admit my middle-age prevents me from participating in many of those extreme



sports and therefore now focus on taking long bike rides through the many bike trails around Denver. I recently rode on a 200 mile route from Seattle, Washington to Portland, Oregon with my daughter. Biking is my favorite hobby that keeps me in good shape!

8. You are the writer of "Drawing Shortcuts". We want to know more about your writing experience of the book and the blog.

Authoring Drawing Shortcuts was a dream come true! I was approached by the John Wiley and Sons editors following a 1999 lecture I gave at an American Institute of Architects convention. They were very interested in the subject of combining traditional hand drawing with technology and asked me to submit a book proposal. It was approved and I spent a year collecting material and writing the book. Following that first edition in 2001 which was published in four languages and adopted by over fifty universities, I was given the opportunity to update the book in 2010. The 2nd edition of Drawing Shortcuts now features SketchUp and many of the hybrid visualization methods I currently teach. My blog enables me to instantly share new ideas and techniques about design communication with everyone around the world. I love featuring other talented visualists and have written close to 200 blog posts and have more than 200,000 page views since I began my blog two years ago! I love hearing stories from others about their visualization methods and am always looking for new ways to communicate design.

9. When will we get your next book?

Glad you asked. I need to take some time off writing books and focus more on my blog and new alternatives for sharing my ideas with a larger global audience. I've offered several webinars and a video about design visualization and would really like to offer more online programs that friends around the world can have access to. I'm also curious about developing content for ebooks that can be viewed on an iPad or other digital tablets with constantly updated material.



10. Why do you love to design in SketchUp? What is so special about it?

SketchUp was a "game changer" for my design and visualization process. For the first time in my career, I could construct accurate 3-dimensional models of buildings and planning projects, then integrate those models in my design visualization process. SketchUp is easy for anyone to learn and study design with shadow characteristics, unlimited perspective options and many entourage components downloaded from SketchUp 3D Warehouse. I enjoy using the many plugins for SketchUp that speed up the modeling process. My favorite plugin is the photorealistic software named Shaderlight that applies lighting characteristics and reflections to the SketchUp model scene.



11. In future how do you like to see the development of SketchUp?

Good question. I mostly create simple models and therefore don't need too many sophisticated modeling tools. I wouldn't mind taking some SketchUp training from an expert as I'm sure I don't use half of the tools and features SketchUp offers. I can't imagine how to make SketchUp any better than it is. The SketchUp software developers are always listening to user concerns and have a successful track record of improving the software with every new release.



12. Tell us something about Leggitt studio?

I recently became a partner with the Denver planning and landscape architectural firm named studioINSITE (www.studio-insite.com) and am beginning to phase out Leggitt Studio due to my new position with the firm. I continue to teach, offer workshops and write about design visualization under the new name of studioINSITE.

13. Please give us some advice to the budding designers and architect.

The design profession is rapidly becoming more demanding in terms of having less time to solve design problems and to produce more work. Clients are asking more from designers and as a result of this "hurry up" design culture, we need to become smarter communicators by making strategic decisions about how we approach and solve design problems, visualize our ideas quickly, and use our time efficiently so as not to take away from other projects or exhaust our fees. I advise young designers to stay current with advancements in technology, embrace traditional visualization techniques and always have a wide range of skills to employ as changes occur in the global economy.





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14. What is your opinion about Sketchup ur Space? Please give us some advice.

You are on the right track and I encourage you to continue providing readers with great articles on design visualization and SketchUp modeling. Listen to feedback, follow your heart and especially have fun!



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Customer Success Story Media Design School, New Zealand Vray/Chaos Group Newsletter

THE STORYTELLERS



Media Design School is a unique place bringing together education and creative talent. Tell us a bit about the school's history and the courses taught.

Media Design School was founded in 1998 and has really established a reputation for providing education and project-based learning in specialist areas including 3D animation, VFX, game development and design. Our faculty members bring a lot of industry connections and experience to the curriculum as well, so students are wellprepared for careers in the creative sector.

Can you tell us about the teaching methods the school uses? Is there a specific approach unique to the school?



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Media Design School prepares students to work in creative fields, and it has a long history of working with industry to ensure students are able to hit the ground running when they enter the workforce.

Team productions are an important aspect of the experience at Media Design School. We focus on teaching students how to be great 3D artists, making sure that they have the depth of knowledge and experience to produce world-class work that gets them noticed - and into great jobs.

To give students production experience and some amazing shots to work on, we bring industry productions into the school. Our lecturers are filmmakers themselves, so they take on the responsibility of directing and producing the live-action/VFX short films. We also work with industry professionals including writers, cinematographers, actors, composers and sound designers, so students learn by watching professionals at their craft and running productions using best practices. This approach allows us to produce top-notch work and provide an unparalleled, hands-on experience for students.



Image courtesy of Media Design School



How would you describe the culture and the spirit of the school?

New Zealand's reputation for producing high-end films, and Media Design School's specialist qualifications in animation and visual effects, attracts students from all over the world.

These students are incredibly motivated and focused. Generally, the environment is supportive, and there's a lot of collaboration on projects; but there is a bit of healthy competition. Each class tries to outdo the work of previous classes, and the results are usually really impressive.

Students work long hours under tight deadlines during productions, so they definitely have a realistic taste of what the industry is like for 3D artists. And now that we are offering specialist degrees in computer animation and visual effects, the commercial experience is augmented by academic research and study. This balance gives our graduates the skills to be productive as soon as they start working and the ability to adapt to changes throughout their career.

INSPIRATION AND TEAM WORK

How did you come up with the idea about *The Deadliest Game*?

Like many of our films, this production began with a brainstorming session in class. We kick ideas around and try to find an idea that gets everyone interested in - and that we can actually shoot.

The Dr Grordbort project started out with an idea about an Animal Planet-type guy on an alien planet. We were imagining hunters and pith helmets, and that reminded us of the retro-future world of Dr Grordbort created by Greg Broadmore. Greg is a concept designer who has worked on projects including *The Adventures of Tintin*, *District 9*, *Avatar* and *King Kong*, and had recently given a talk at the school.



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We asked him if we could make a short film based on his creations. Fortunately, he'd seen another student project - a zombie romance called [Rotting Hill](#) - and he loved it. He showed it to Richard Taylor, the head of Weta Workshop and co-owner of the Dr Grorrbort property, and he loved it, too.

They both said 'yes' to putting the world of Dr Grorrbort on film for the first time. Everyone at the school flipped with excitement. I told a writer friend of mine and he nearly fell off his chair. He is a big Dr Grorrbort fan and is a proud owner of one of the collectable guns. He volunteered to write the script, and off we went.



What are some of the funniest moments during the making of the *The Deadliest Game*?

Like many of our films, this production began with a brainstorming session in class. We kick ideas around and try to find an idea that gets everyone interested in - and that we can actually shoot.

We were shooting test clips of elephant walk cycles, and we had four students carrying a table with a fifth student balanced on top hanging on



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for dear life. That looked pretty silly, but it helped us learn what we needed to get the shots right.

Building the set was quite an experience too. It took two of us to weld together 30m of box steel, then five of us wrapped the steel in what must have been miles of twine, as well as fashioning the rest of the moveable set. It took about 140 hours to make and just two hours to cut up when we finished. We managed to catch some of this on our "Making Of" film.

How was it like to work with the team? What did you learn from the process?

The team worked incredibly hard, and it was great to be able to show the final film with the huge sound mix and score on the big screen. I learned many things along the way of this production: how to use an arc welder, that seven pages is too much to shoot in one day, and that doing ADR is not simple...

Which film festivals is The Deadliest Game going to participate in?

A bit too early to say at this stage, but we have had a few early successes including an official selection of the 37th Boston Science Fiction Film Festival.



THE BACKSTAGE EXPERIENCE

Which were the most challenging parts of the short? What technical approach did you use to solve them?

Interestingly, the creatures themselves were not too tricky. The big guy at the end was hard because he was complex but the rest only became tricky when we needed to do something - like shoot off its head.

The environments were a bigger challenge than expected. One of the students developed a great procedural system for generating rocks with Maya displacements and rendering it in V-Ray; it gave us the right balance between control and efficiency.

We did experiment with the indirect illumination options to find the best solution for this project, and we eventually settled on primary irradiance with single caches for the scene and animation caches for the creature passes.

We were driving the lighting for each scene with an HDRI image, and we would enhance with key lights in the same place as the lighting in the HDRI images. Sometimes we would kick in bounce cards just like on set,



and they worked just as you would expect - which was great.

What was your main concern when creating the organic shaders? Are you satisfied with the control that the V-Ray materials give you?

The shift to V-Ray from Mental Ray was smooth, especially as the shaders behaved in a familiar way. The SSS shaders were easy to control with good responses to light that made them quite predictable. In general, the challenge of organic materials wasn't too tricky with the V-Ray shaders.



Image courtesy of Media Design School

How would you describe the role of V-Ray in your filmmaking process? Which features did you find most helpful?

The predictability of the lights was great to work with. Setting up lights is my favorite part of doing 3D, and I loved being able to mimic the real world and get more natural results much faster.

V-Ray lifted the level of realism in our lighting. For comparable render times we were able to produce higher quality lighting solutions that incorporated subtle bounce light effects with a few key lights and bounce cards.



CUSTOMER BENEFITS

We are very grateful to the support given to us by Chaos Group and their local sales representative, Michael Abel at Storm FX in Australia. When the project grew a bit more than we anticipated they allowed us to continue on with their support. Also the learning resources and tech help got us up and running in lightning fast time.

The transition from Mental Ray was quite straightforward and nothing to be afraid of. In hindsight, changing to a new renderer at the start of our most challenging film was a bit risky, but it worked out fine and paid dividends in the quality of the final product.

Tell us about your current and upcoming projects.

We will be starting our next film with the next group of students. We don't know what it will be yet - it really depends on what the class comes up with. But we will be using V-Ray again. In fact, we are switching to V-Ray for all our productions from now on. We are shifting to V-Ray because it creates better looking renders. The physically accurate lighting looks beautiful.

We are hoping to get our teeth into a stereo project at some point but that wouldn't belive action.



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Image courtesy of Media Design School

Cross posted from [Chaos Group Newsletter](#)



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Golden Rules Of Sketchup Plugin Development



Author: Thomas Thomassen aka Thom Thom

The Ruby language is very easy to extend to suit your needs. Some very pretty looking code can be written.

However, when you write plugins for SketchUp's Ruby API you should be careful. The environment is shared between all plugins, so there is a good risk of clashes if you do not "play nice". Here's an overview of important points to remember when you develop plugins for Google SketchUp.

Never modify existing base methods that ships with SketchUp

This is one golden rule one should adhere to at all times! You might have an improved version of one of the base classes that makes the code cleaner and more efficient. The problem is that other plugins will be relying on the original behaviour and will therefore break. Causing frustration among users and developers. It is something that will quickly send a plugin to the blacklist - where the SketchUp community will discourage the use of the offending plugin.



What to do instead? Just accept that the code needs some extra syntax and keep your improved method within your own namespace.

Avoid adding methods to the global namespace

If you write a plugin without wrapping the code in a module or class you are actually adding the methods to theKernel class. Since every class inherit Object, and Object inherit Kernel, these methods becomes available to all other classes. Causing potential for conflict everywhere.

Avoid global variables

For the same reasons you should avoid methods in the global space, avoid global variables and constants. Keep it contained to your own namespace. (That's the general jest of playing nice and safe in the SketchUp Ruby API world.)

Avoid extending base classes and modules

It can be tempting to extend base classes with extra methods with the intention of writing pretty code. It is in effect the same as adding method to the "global namespace". You cannot be sure that no one else attempts to add a method with the same name. Nor can you be sure that name might be used by the official API in the future.

Staying on the safe side

Due to the shared nature of SketchUp's Ruby API environment, the safest way to avoid clashes is to wrap all your code in a carefully picked namespace which you hope will be unique. Over at [SketchUcation](#) the common convention is for developers to use their initials as prefixes for the root namespaces they use for their plugins.

I would for example use module names like TT_MyNewCoolPlugin. (Though my recent ones are located under TT::Plugins - ie. TT::Plugins::HelloWorld.)

If you extend a base class for any reason you are much more likely to run into clashes with other plugins. And that doesn't just cause problems for you, but also your users, the developer of the other plugin and his users.



And a whole lot of time end up being consumed trying to track down the source of unexpected behaviour.

In order to play nice and make your plugin as robust as possible, keep *everything* neatly wrapped in modules with carefully crafted names to reduce possible clashes.

An Hello World example that "plays nice"

```
1  require 'sketchup.rb'
2
3  module NN_MyOwnUniqueNamespace
4
5    unless file_loaded?( __FILE__ )
6      menu = UI.menu( 'Plugins' )
7      menu.add_item( 'Hello World' ){ self.hello_world }
8    end
9
10   # Use instance variables inside modules instead of global variables.
11   @my_variable = 'Hi there! :)'
12
13   def self.hello_world
14     puts @my_variable
15   end
16
17   file_loaded( __FILE__ )
18
19 end # module
```

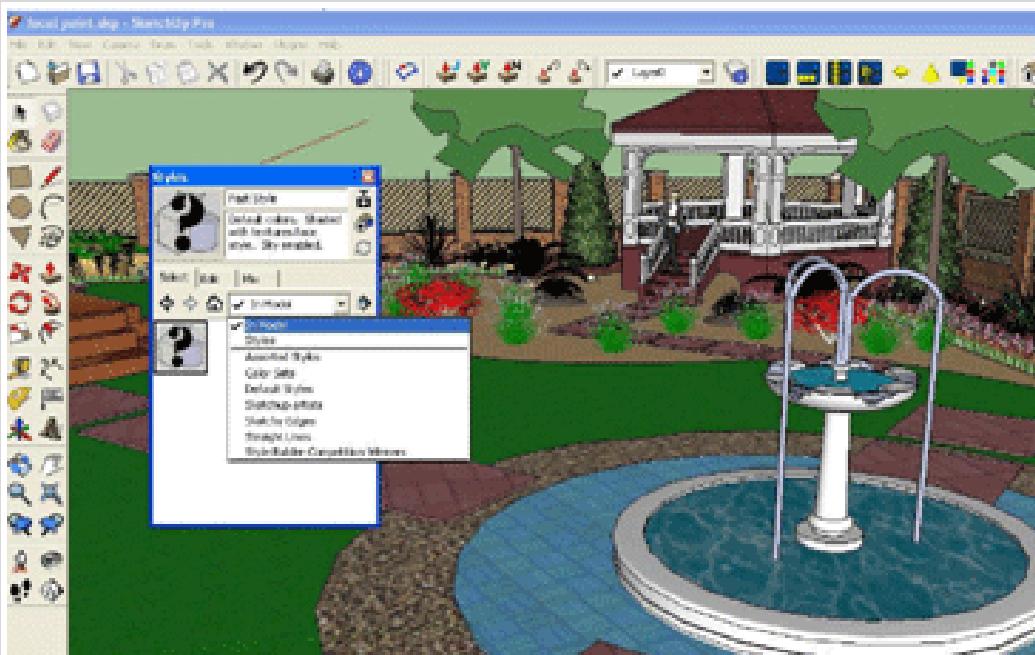
Cross Posted from [Thom Thom Blog](#)



March 2012



Enhancing your Model Responsiveness



Author Hussain Fadlallah

Hello SketchUp fellows, I want to investigate about a common problem that I encounter during modeling my landscape drawings into 3D.

As I go deeper in the modeling workflow the elements of the drawing get intensively increased, Trees, shrubs, flowers, and outdoor furniture....Etc.

Of course, no need to say that all of these drawing elements are being created in a "Components" which are drawn independently from scratch, or being downloaded from Google SketchUp 3D warehouse, or any other landscaping SketchUp component collection.

All these components and many other Modeling process procedures make my model very slow in responsiveness, especially when I use the navigation tools to navigate through my model. Taking time to give you the desired view, scrambling and losing the textures applied on the surfaces make me feel inconvenient and get me frustrated quickly.

So how can I tackle this problem with little bit of effort.



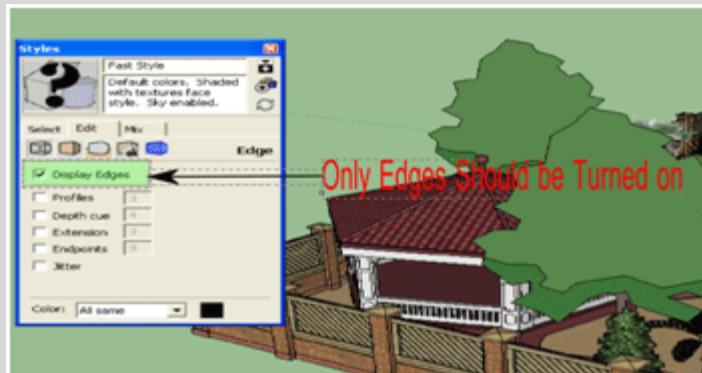
First, if you have already imported an AutoCAD file into sketch up, make sure that you manage your layers to minimize the numbers of layers already imported to your SketchUp model from the original 2D CAD file.

Then you are ready to handle your Model slow responsiveness problem. The solution key of this problem is the "Styles Browser" window.

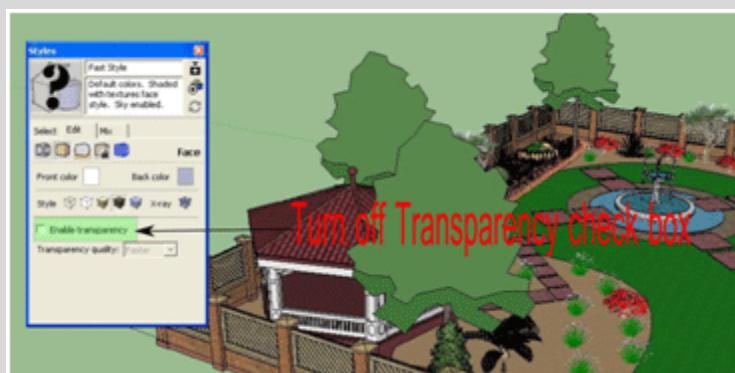
Go to menu bar and select "Styles" to view the styles browser window.

1- Click "Edit" tab to access to the Edit options pan to reach the Styles Editing options (Edge Settings, Face Settings, Background Settings, Watermark Settings and Modeling Settings)

2- Uncheck (turn off) all the boxes shown under the Edge Settings options pan and (turn on) the Display Edges box.



3- In the Face Settings panel you need to uncheck (turn off) the Transparency box, because SketchUp has to redraw our model several times each time we change the view port this is when the transparency is turned on.



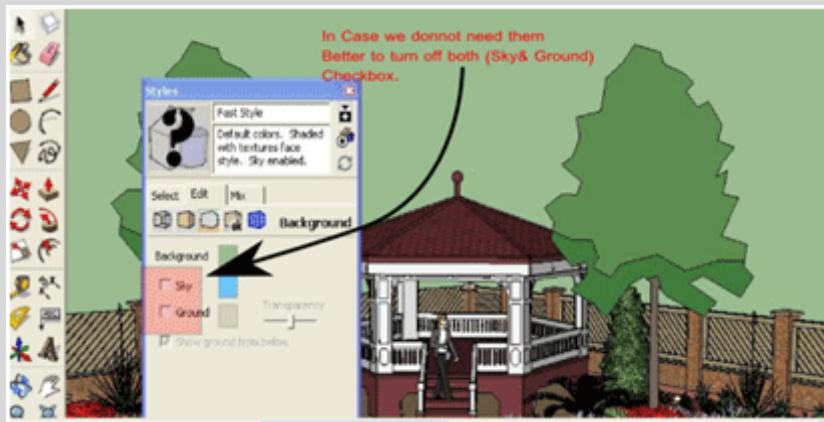
4- In back ground options pan, no need for the (Sky & ground) because



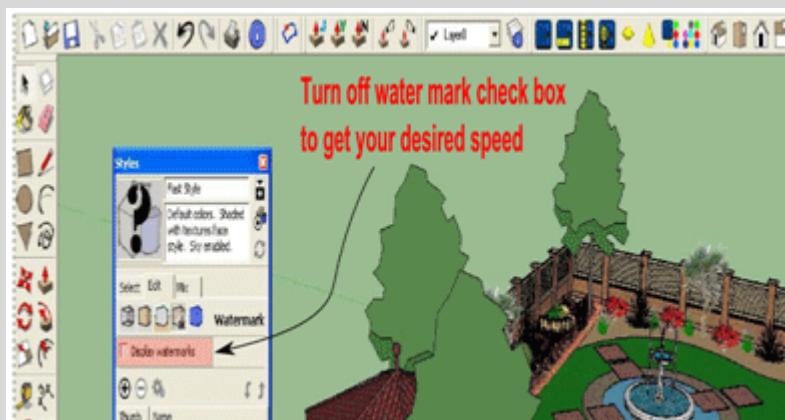
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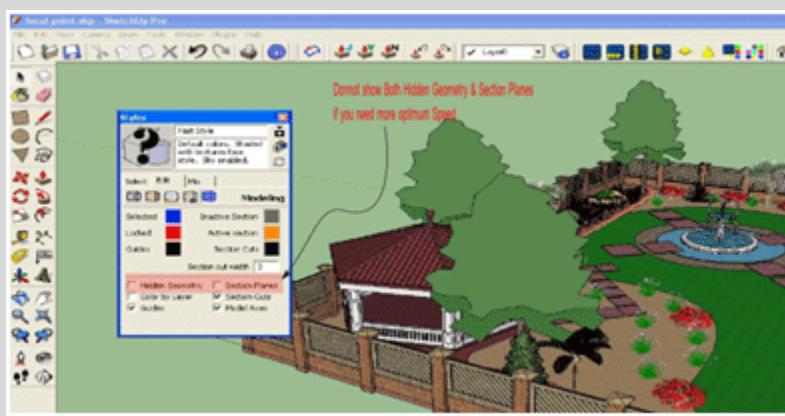
both make the computer to think more during our work, so better to leave these boxes unchecked.



5- If you are not in bad need for the water mark option better to turn it off from the water mark settings pan.



6- For more guarantee to provide the desired speed it is nice idea to also turn off the (Hidden Geometry & Section planes) in the Modeling Settings pan.



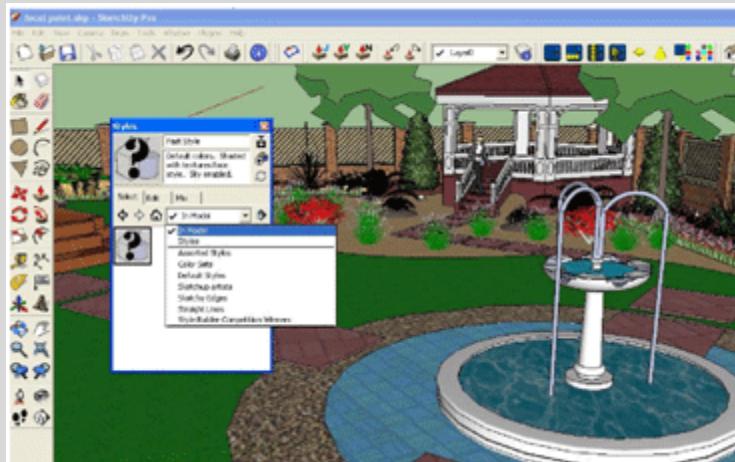


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Finally, Make sure to save your new style and give it a specific name by using (Create your Style) button in the Styles Browser. This will save the newly created style (in model)

And you can use this style each time you begin a new modeling process. This will release SketchUp from many tiny hindrances and let it go freely and gain more speed.

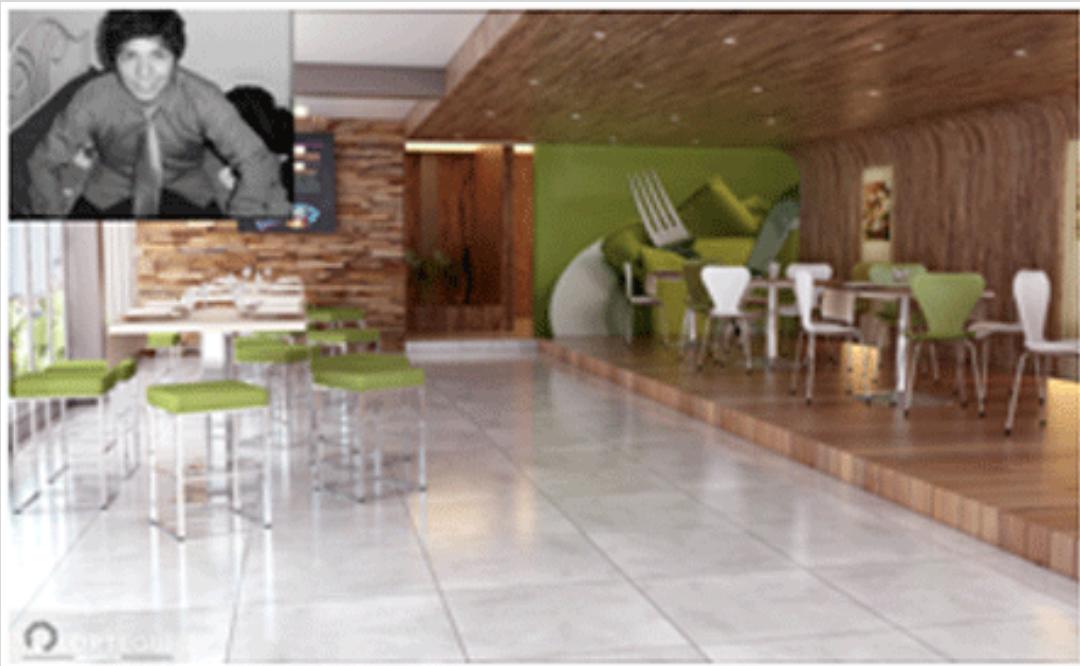




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My Story With SketchUp



Author : Jeferson Olórtegui López

Hello Friends. My name is Jeferson Olórtegui Lopez. I come from Peru. I graduated in 2011 from the Universidad Cesar Vallejo, with a degree in Architecture. Working from mid-career at the University by different studies and building dedicated to architecture. Currently working as an architect and interior designer in my own studio called Olórtegui Architects, I keep a lot of interest in art and photography. Then my story with Sketchup.





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Since childhood I liked the art, especially painting and drawing. I remember performing my favorite drawings as Saint Seiya, Dragon Ball Z and Pokemon, perhaps this mania for drawing and portray such persistence in which I am inclined to the world of art and architecture. Thus, after finishing high school, enters college to study architecture.



At that time the world of 3D was something very new for the students and were very few people knew about that subject, even I knew nothing about 3D programs, but always fascinated me when I saw the projects in this type of presentations. It is so early 2011 needed to submit my thesis with basic 3D, so I run into SketchUp.



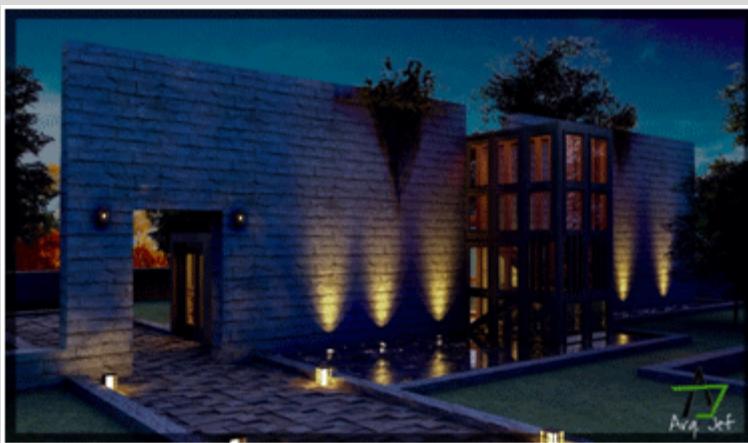
Immediately the affair with SketchUp was amazing, I love the interface, and ease of use to lift my own projects, importing Autocad. I discovered so Sketchup own tools, I woke up and 10 hours a day to program, Sketchup went poking into me. And I also met with the Vray Sketchup, with which it could make photorealistic images, but when I started my



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images were very basic and were not anything of realism, like all at the beginning, and that was frustrating.



We as a curious thing, at this time was where I found a very good forum which is called Sketchando where I dared to post images of an interior design project, I was criticized because there were too many flaws, this was for good, I wrote down recommendations to improve the picture. There I met great friends now, such as Juan Manuel Ariza (Don Ramon), Juan Manuel Hernandez (Abiyari), Eugenio Manzano Cruz (Cajon), etc.. and many great friends. Which helped me to improve and I think they are my basis for what is now on Sketchup.



Well, I was also looking for tutorials, joining more forums, more research is the Vray and functionality on Sketchup. I think the constant practice helps a lot, I lingered days in a scene to improve my quality of render, and also the speed for the scene and settings. With that I learned about the



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proper handling of the camera position, angles, to take the realism of photography. At the end of the picture out by Vray, retouch with Photoshop, which is also unknown but practical tutorials and learn quickly.



Currently, my projects have to submit drawings and photo-realistic images, which shows the full design. Customers are very happy to see the renderings, they think they are photos, and I am happy to see the satisfaction and joy from them. Sketchup I can say changed my life and my career considerably.

Finally a recommendation, especially for those just starting with the modeling and rendering in Vray Sketchup, made constant practices, please inquire of tutorials and / or forums, read a lot, and never give up to achieve your goal surrendered.

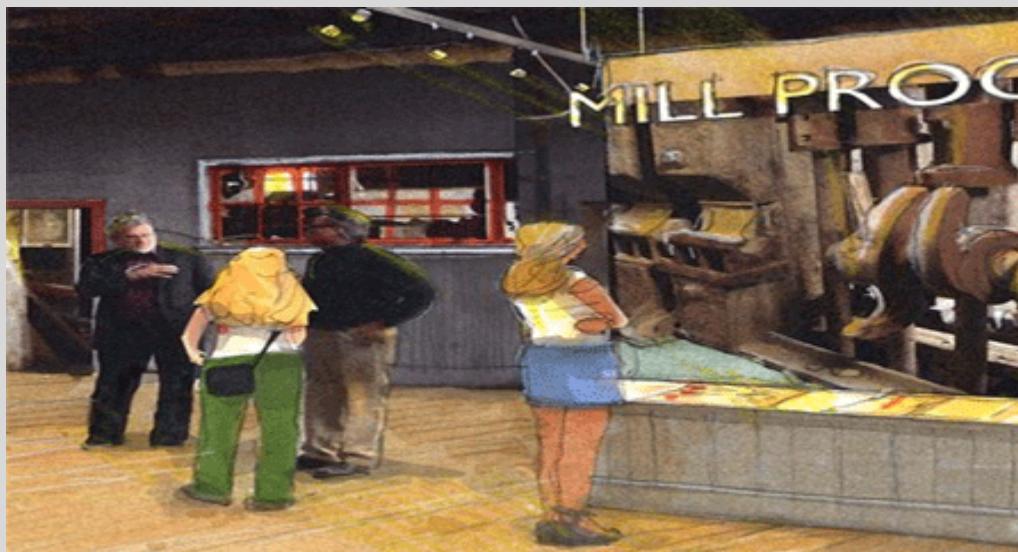
Friends thank you very much for reading my story.



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Digital Watercolor with SketchUp Photo Match



Author: Jim Leggitt

I'm always looking for new alternatives for incorporating digital tools with traditional hand drawing and coloring techniques. This visualization method combines a Google SketchUp model that I built using the Photo Match tool with some hand coloring and digital filtering in Photoshop to create a quick rendering.

Here are the basic steps in which I was able to transform a digital photograph into a digital watercolor. The subject for this visual was an amazing historic gold processing mill in Nevada. I photographed the building during a site visit and used one of the interior photos as the basis for my rendering.



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Step 1. Digital Photography. During a quick visit to the mill site, I took photos of the interior and exterior, trying to capture key elements of the machinery and spaces. Due to low light conditions and small rooms, I wish I had a tripod and a camera with an extra wide angle lens!



Step 2. SketchUp Model. I built a SketchUp "Photo Match" model of the main interior warehouse space that we determined to be an ideal



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location for interpretive exhibits on mining history and visitor orientation to the gold milling process. Notice how this model is a "stage set" model - constructed only for the single perspective view.



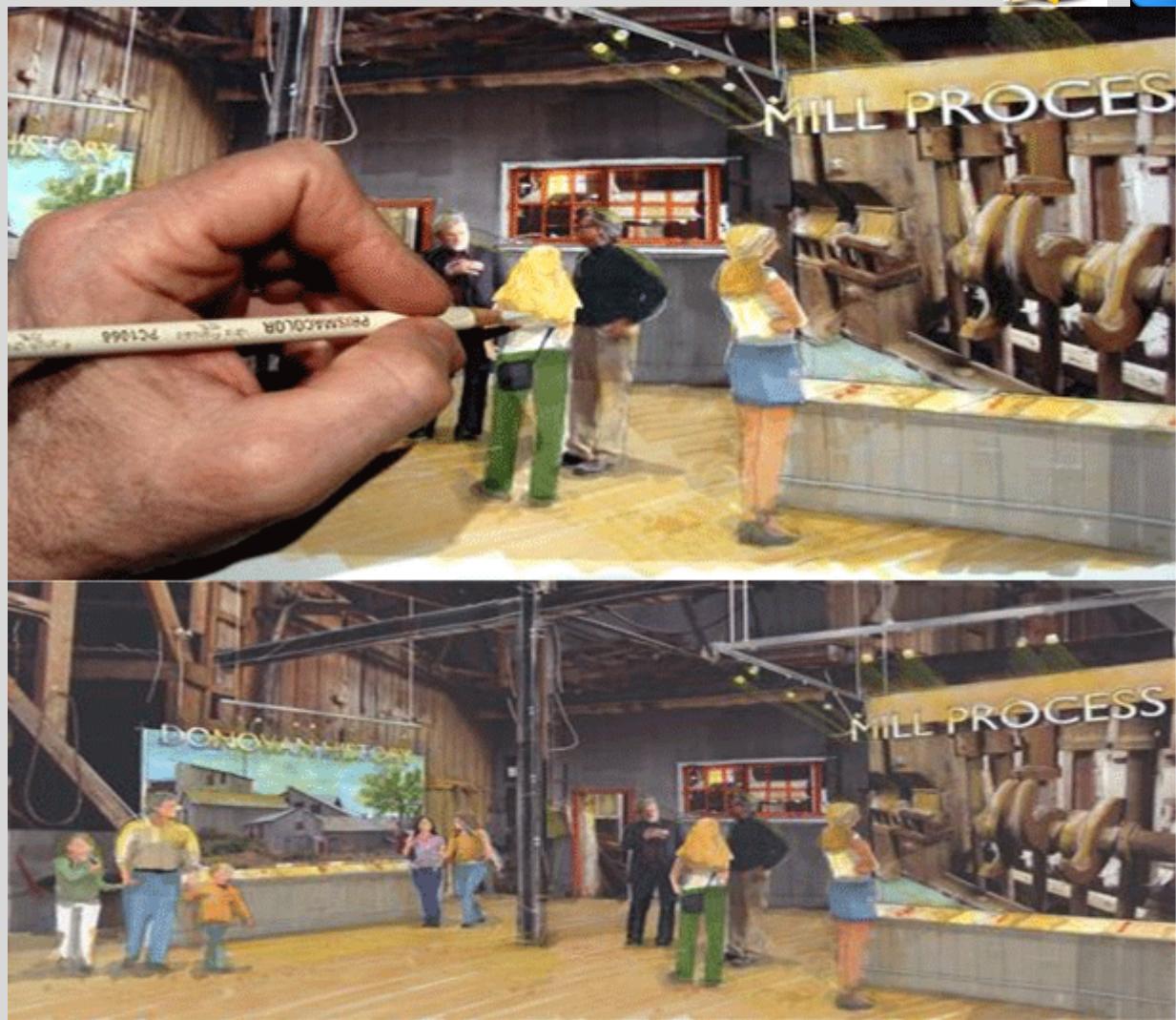
Step 3. Scene Composition. I placed the exhibit displays, people, lighting and graphics into the SketchUp model to create an active scene that resembled a visitor center experience. I'm not that experienced with the SketchUp Photo Match tool and struggled a bit with placing the photo onto the beams and columns.



Step 4. Scene Enhancement. After exporting a high resolution jpeg, I eliminated many of the dark clothing colors in Photoshop, added a floor color and lightened the entire image in preparation for adding back color with markers and colored pencils. Compare this modified view with the original scene (step 3) exported from SketchUp.



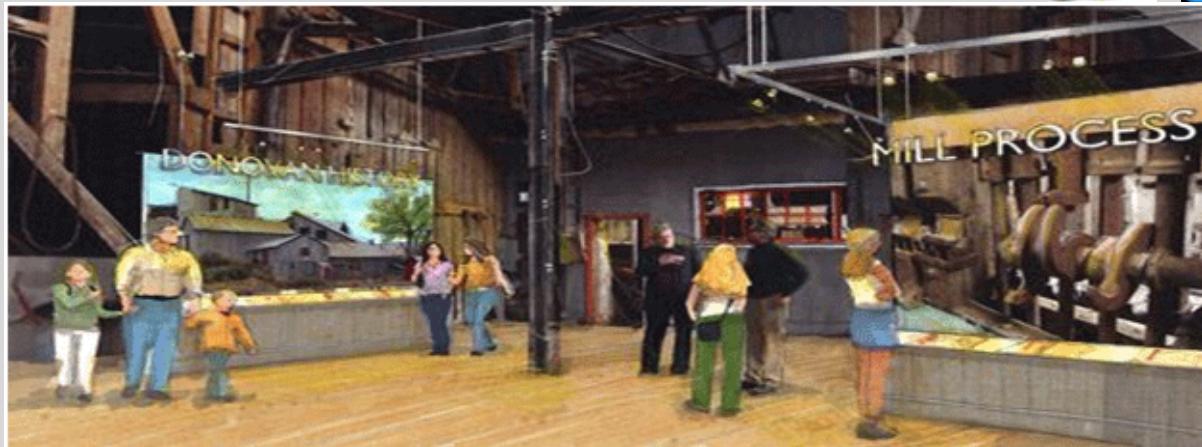
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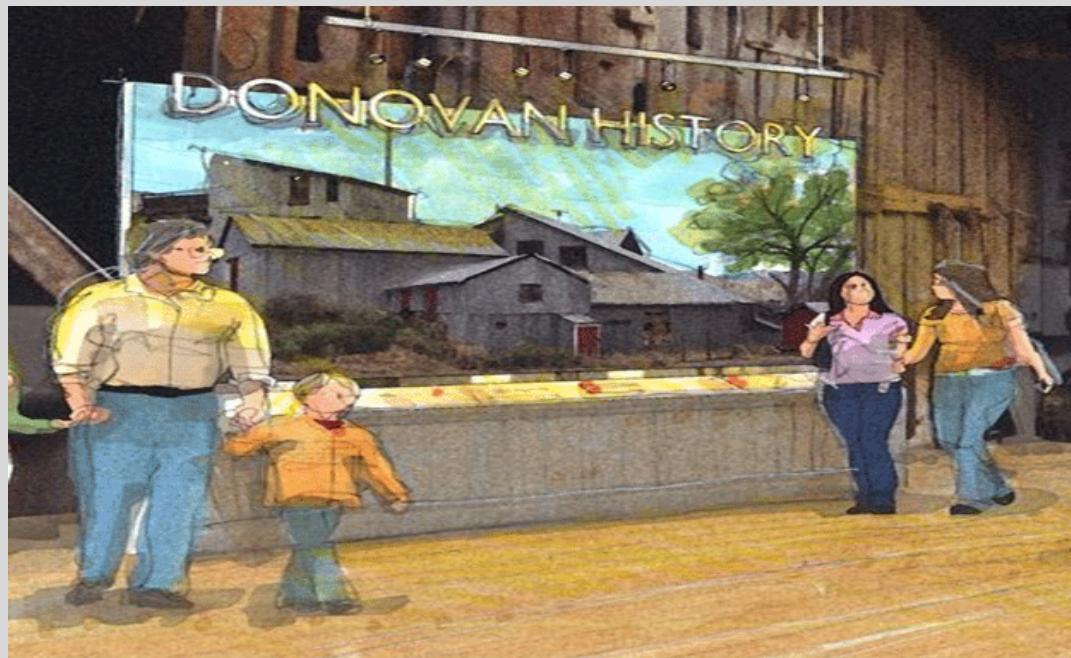
Step 5. Hand Coloring. I printed the view 11"x17" on heavy weight matte finish Epson presentation paper using my Epson Workforce 1100 printer. I added light colored markers to the flooring, exhibit displays and people. Using a very hard mechanical pencil, I loosely traced over the objects in the scene in order to reinforce the "hand drawn" character of the rendering. I enhanced the overall image with white colored pencil highlights and yellow pencil to emphasize the interior spot lighting.



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Step 6. Scan and Watercolor Filter. I scanned the completed rendering at 300dpi and then applied a Photoshop watercolor filter to the image which softened the linework and produced an overall painted look to the rendering similar to that of an actual watercolor! I finally adjusted the contrast levels by darkening the blacks and lightening the whites of the image.



Cross Posted from [Jim Leggitt's Blog](#)



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Easter Seals Announces Sketch-A-Space Contest Winner



Three Young Designers Win by Highlighting Awareness of Employment for People with Autism

As the second annual Easter Seals Sketch-A-Space competition wraps up, Easter Seals and Google SketchUp are excited to announce the winners of this year's contest.

The Sketch-A-Space competition offered an opportunity for people with autism, as well as those interested in autism, to win \$3,000 and improve their resume and employment portfolio. Google's 3-D modeling software, SketchUp, is very popular among people with autism, many of whom are visually and spatially gifted and especially adept at creating 3-D models. Capitalizing on strengths with SketchUp is one way to make meaningful employment a reality for people with autism and other disabilities.

The Votes Are InEntries for the competition were due in late January, and a panel of judges chose three finalists. The finalists were chosen based on the designers' attention to unique needs of people with autism, eye for design and creativity, and proficiency with the SketchUp



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software. The finalists' designs were placed on the [Easter Seals website](#) for a public vote. Hundreds of people expressed their opinion, and a design entitled "Interior Designer's Studio Office" was deemed the winner.



Kala Letts, Alexandria, Va., creator of "Interior Designer's Studio Office," was awarded \$3,000 for her design. Letts, a recent graduate of the Virginia Tech Interior Design program, works for Purple Cherry Architecture. The company specializes in designing for people with special needs, including individuals with autism. Some of Letts' projects include assisting with a group home for adults with special needs, a school for K-12 children with high functioning disabilities and an article on how to set up a standard bedroom to home-school a child on the spectrum.

"My dream is to make 'evidence based design' a household name," Letts says. "I believe that research and design can come together to create better environments for everyone, especially in the workplace, healthcare facilities, schools, and the homes of those with disabilities."





Clay Damron, a high school junior from Austin, Texas, was awarded \$1,500 for his design. His design entitled "Architect's Playground" came in at second place. The third place prize of \$500 was given to Jonathan Anderson, Minnetonka, Minn., for his design entitled "Cabin Amongst the Ruins."



"Google SketchUp helps individuals express and reach out beyond themselves," said Daniel Tal, one judge of this year's Sketch-A-Space contest. "The capacity to think and see in 3-D and have an intrinsic perception of space, depth and dimension that some individuals with autism have is such a unique strength and it's cool to see how the SketchUp software and this contest can tap into that."

Partnering with Google SketchUpEaster Seals recognizes the need for increased awareness for individuals with autism in the employment sector. Sadly, employment rates for individuals with autism are astonishingly low. Easter Seals and Google SketchUp teamed up to shed light on this issue and show that individuals with autism can be productive, working members of society when they are placed with the right job.

"Easter Seals Sketch-A-Space contest aims to raise autism awareness and increase community understanding that individuals with autism can be successful in the working world when they have access to the supports they need and find the right job match," says Tom Wyman, manager of business development, Google.

Patricia Wright, Ph.D., MPH, national director, autism services, Easter Seals, was pleased with the results of this year's contest. "This year's Sketch-A-Space provided a wonderful opportunity to increase SketchUp



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users' awareness about autism," says Wright. "Many of our entrants shared that Sketch-A-Space provided them an opportunity to learn about autism, specifically autism and employment. Easter Seals strongly believes that the unemployment rate for individuals with autism is too high. Sketch-A-Space educated the design community about autism and raised awareness about employment and autism."

Easter Seals Sketch-A-Space Competition and Google's [Project Spectrum](#) are working together to share that individuals with autism can result in gainful employment when their strengths are highlighted. "Google SketchUp has been a fantastic collaborator on Sketch-A-Space," Wright says. "[Project Spectrum](#) already demonstrated that SketchUp is a great match for individuals with autism. Sketch-A-Space simply provides an opportunity for those with autism to shine."

For more about Easter Seals Sketch-A-Space contest, visit www.easterseals.com/sketchaspace.



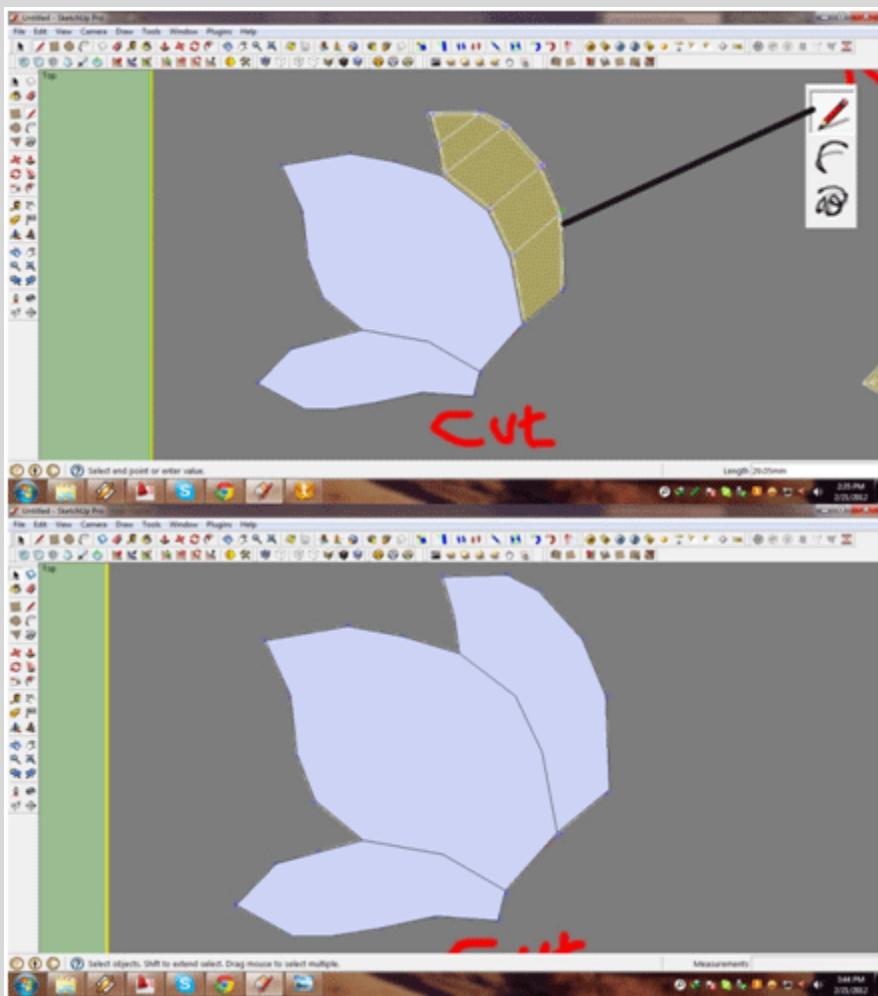
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3D Carving Tutorial

Author: Klara Theresya

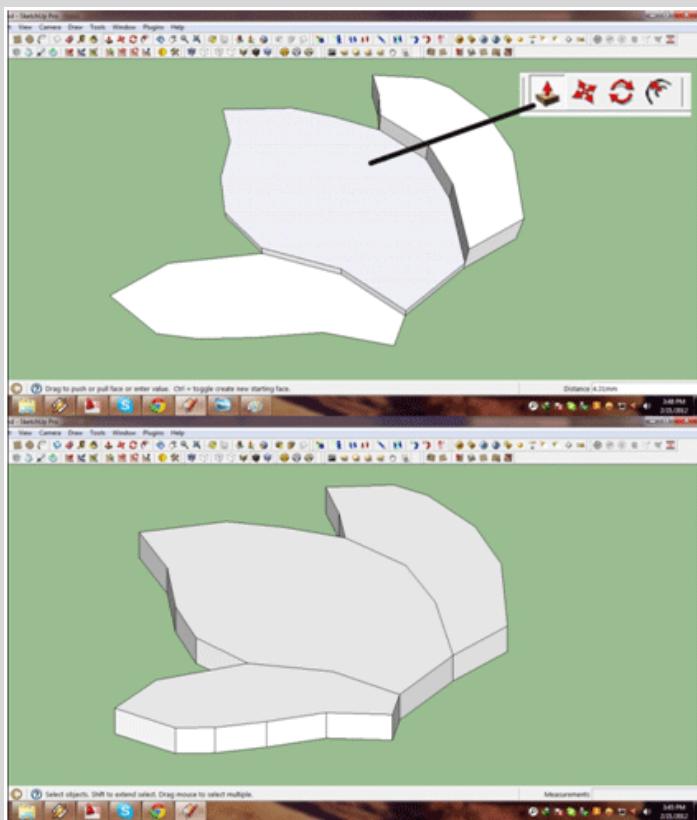
1. Make pattern as image displays, you can download the image in <http://3dcarving.blogspot.com/2012/01/blog-post.html#more>, download the third image.



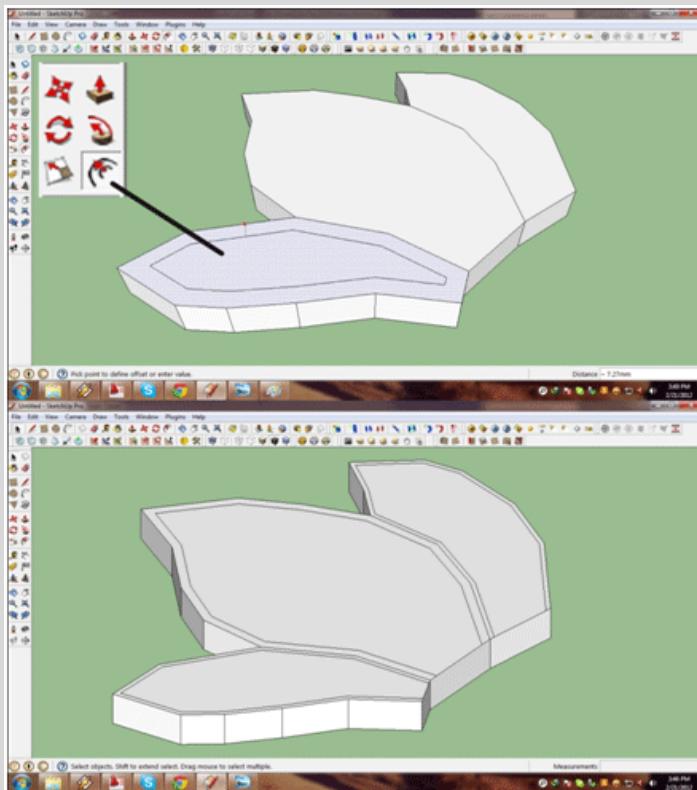
2. Pull the pattern up.



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3. Offset the surface.

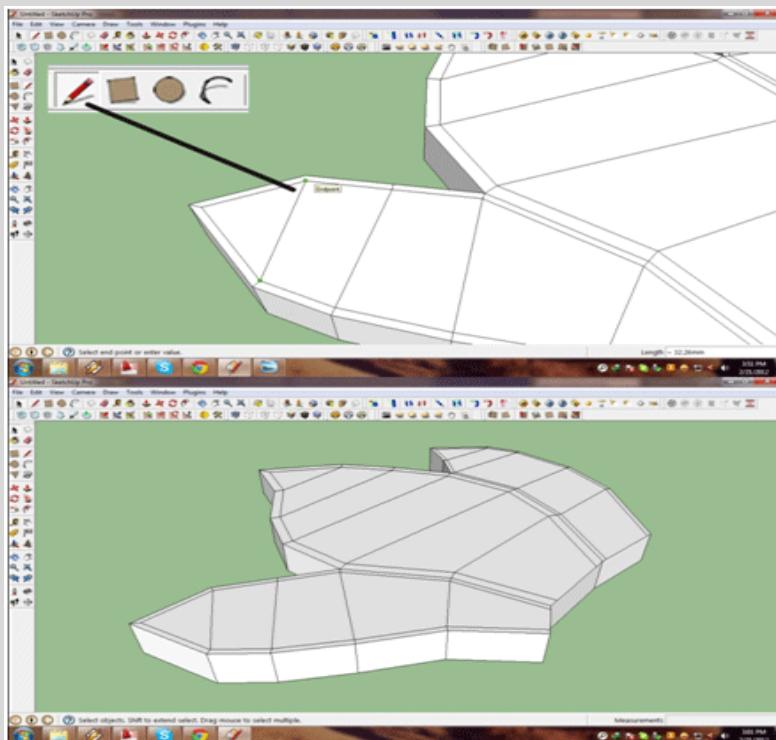




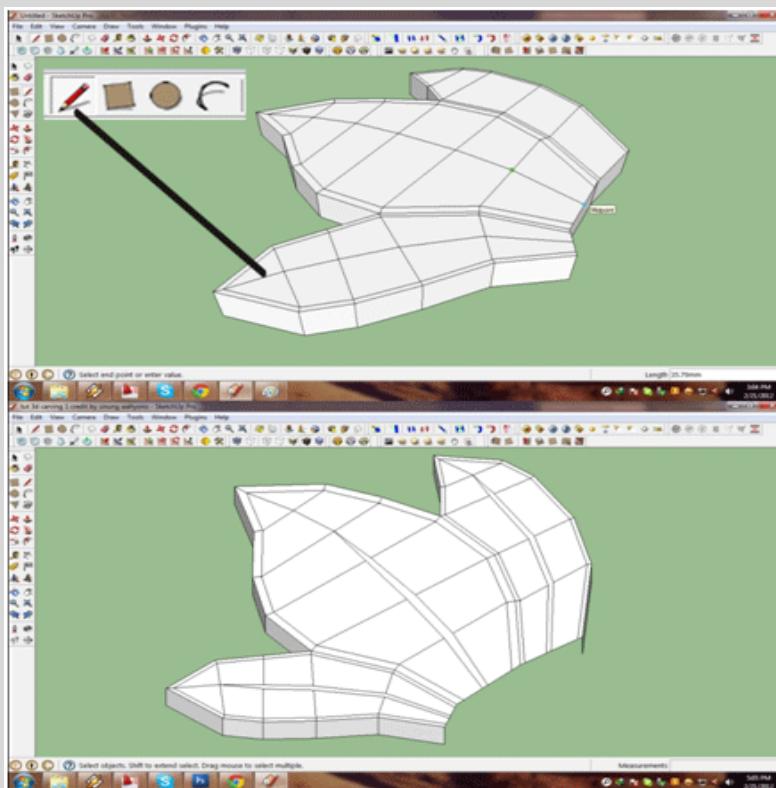
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4. Connect all the lines.



5. Make additional lines in the middle of the pattern with Line Tool.

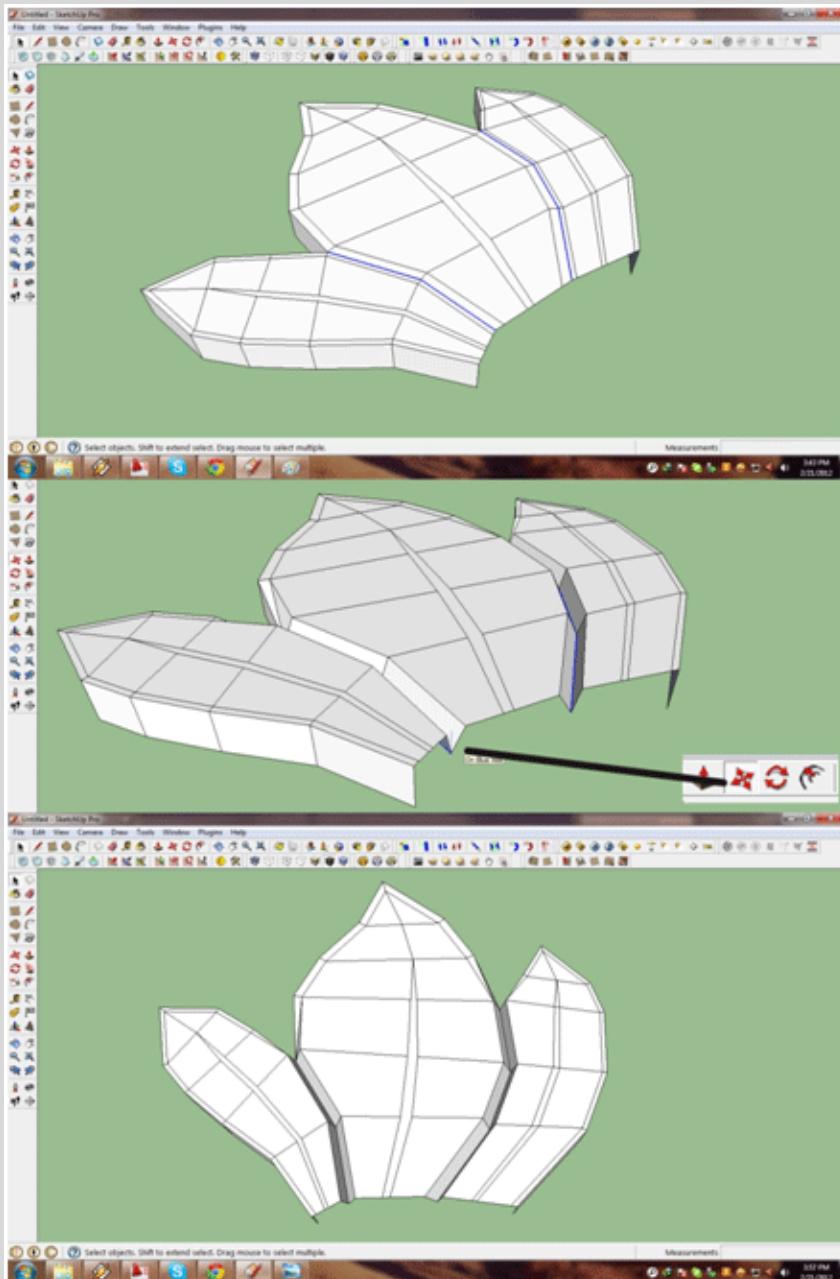




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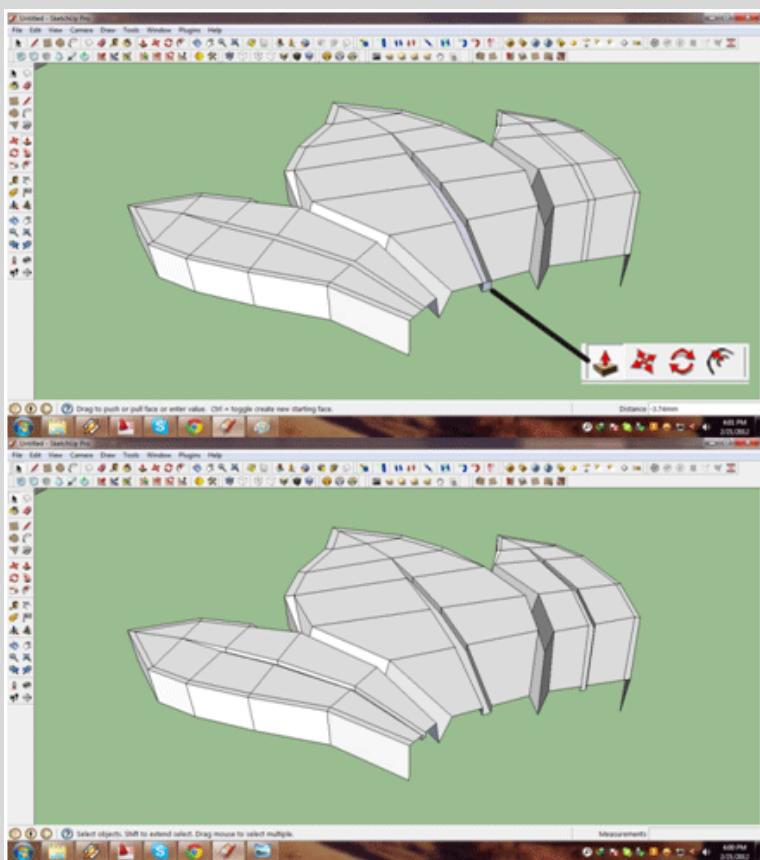
6. Select the blue lines then move them down using Move Tool.



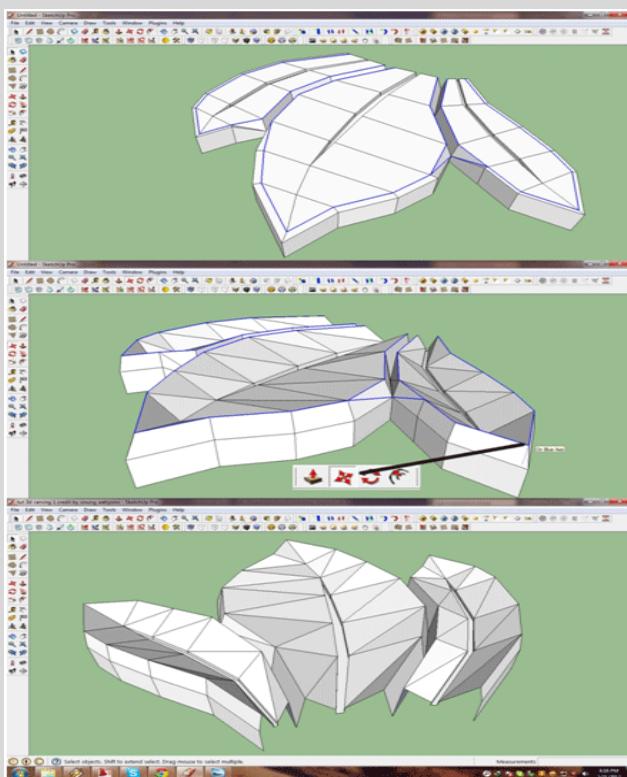
7. Push down the surfaces in the middle.



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8. Select the blue lines then move them up with Move Tool.

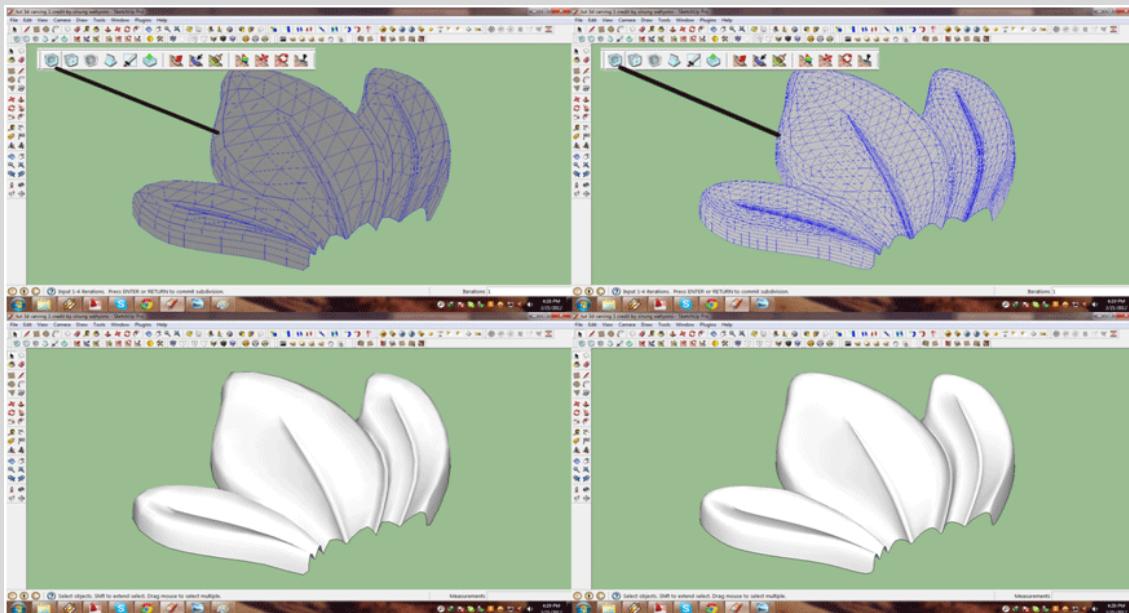




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9. Triple click on the object then use Subdivide & Smooth (Artisan plugin) twice for smooth result.



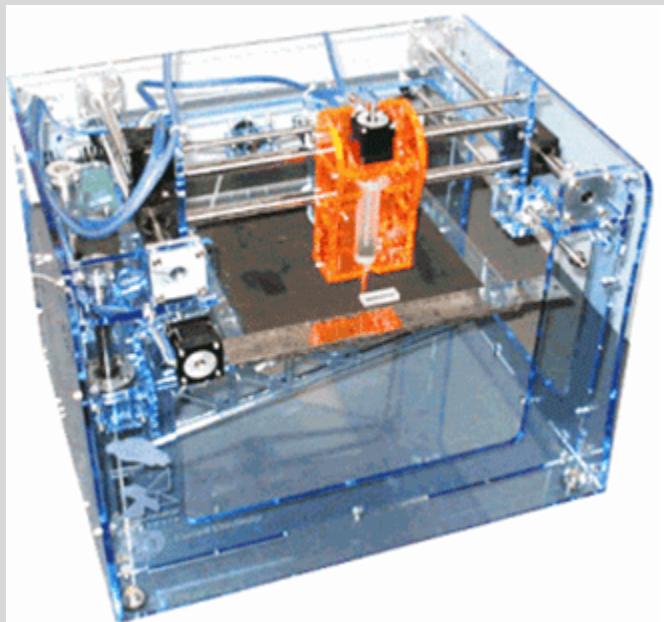


Shades of science fiction as 3D printers spit out complete objects

3D printer

Berlin (dpa) - Plastic? Metal? Cement? Take your pick - 3D printers can manufacture actual objects out of these materials.

3D printing has leapt from the pages of science fiction to actual production lines, with some even coming within the grasp of private customers, even if experts say the printers are likely to remain a specialty device for now.



But the fact remains that these printers are now spitting out replacement car parts, architectural models or simple salt shakers.

"You can even print out body parts from organic materials," says Hartmut Schwandt, head of the 3D laboratory at Berlin's Technical University. Such a feature can come in handy in the case of a broken shoulder. "If you're missing a part of the bone, the patient goes into the CT scanner and the replacement part pops out of the printer."



The technology was developed in the 1980s and continuously refined over the years. Printing methods depend upon the material. Thus, plastic is melted and then sprayed through a nozzle to create the desired object or laid down layer by layer upon a frame.

Schwandt's printer is about as tall as a man and resembles an oven. A cement printer looks more like a washing machine. Before printing starts a vat is filled with cement powder. With the assistance of a binding agent the object is then created layer by layer. The initial product has to be inserted into a special machine to remove excess cement powder. The final product is then coated with a resin to keep it from breaking.

There are two basic approaches. Rapid prototyping creates a model that does not exactly meet parameters.

"Today you're just pushing something around the computer, but you need something that you can touch and that's a lot easier with a 3D printer," says Schwandt. This approach is favored for architectural models and car prototypes made out of cement or plastic.

The other approach, rapid manufacturing, focuses on precision. "These are production quality objects. These are mass-produced items or custom-made individual pieces," says Schwandt. But this kind of manufacturing is in its infancy. "This is the newest development. It's impossible to see what's still coming."

Model cars, toys, pieces of art or dishes: entire runs of such products could one day be made with 3D printers, instead of by special manufacturing machines or tools. It sounds like science fiction and Schwandt admits that "it's partially still a dream."

Cost is one drawback. A professional 3D printer, like one used in the auto industry or by sporting shoe manufacturers, costs "well into the six figures." "It's only worth it if the printer is in use around the clock," Schwandt says.

Semi-professional versions cost between 40,000 and 100,000 euros (54,000 and 135,000 dollars). They turn out good products, but the choice of materials is limited.



There are also entry models for private individuals with the right level of interest. US company Desktop Factory produces one for about 3,600 euros. "Our goal is to one day make 3D printing as common in offices, factories, schools and homes as laser printers are today," according to the company's website.

But experts like Schwandt remain sceptical. "That's not foreseeable. I think it will remain an extreme niche product and stay that way for a while. But it is a fun toy."

And a really expensive one. On top of the printer costs are the costs of materials for each print job. A container of cement for a 3D printer costs about 2,500 euros. Per cubic centimeter, 3D printing costs cost about 3 or 4 euros, says Schwandt.

That means an architect who orders a small model of a house can expect to pay between 100 and 300 euros. Then there's the time it takes for the print job to complete: up to 40 hours.

Schwandt advises hobbyists against buying their own printer, but to use drafting and printing services. For example Sketchup helps customers to create a plan while Fabberhouse and Sculpteo allow users to upload their plans for printing.

Schwandt recommends professional assistance before taking that step, since planning a 3D print job can be intense. "The client has to provide useful 3D data. A lot of people are not able to do that and need help."

The process has its advantages. For example, you can get your item printed in Schwandt's favorite material: potato starch. "Theoretically, you could eat it after the printing."



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Design tool with 3D visualisation for complex board design

In a move to empower PCB design engineers to create virtual prototype designs, element14 has announced the launch of the EagleUp 3D design converter at Embedded World, Nuremberg.



Developed from the ground-up in the EAGLE design community, EagleUp enables design engineers to export 2D layouts from CadSoft's EAGLE PCB design software into Google SketchUp to create accurate 3D prototype simulations.

As electronic products become slimmer and more ergonomic, modern PCBs have increasingly complex layouts and outlines that need to be mapped very accurately during the design process.

With pressure to shorten time-to-market for new products, the one-click export feature of EagleUp speeds-up PCB design by creating a realistic image of the PCB, which can be closely examined for accuracy and modification, can prove extremely valuable.

"EagleUp represents a step-change in PCB design - CadSoft EAGLE users can now easily simulate the viability of their design, much before the production process," said Jerome Lamy, developer of the EagleUp converter. "The realistic rendering also makes for great marketing



material, months before you have the real product available for demo."

The 3D model allows designers to combine multiple boards in the same model to check for misaligned connectors and 'collisions' of tall components. The model can also be used to evaluate airflow around devices, and the accessibility of test and mounting points. Designers can also convert mechanical models from STEP and IGES available on the manufacturers' websites.

The final SketchUp model can be exported to other MCAD tools in STEP format, if necessary.

EagleUp is written as an EAGLE ULP (User Language Program), enabling customisation to specific design needs. The EAGLE ULP scripting language is simple (C-type syntax) and offers access to all the information about the layout. The import plugin in SketchUp is written with the built-in Ruby script. All source codes are also available.

All the tools necessary for EagleUp can be downloaded free of charge for Windows and Mac OS platforms

from: <http://eagleup.wordpress.com/installation-and-setup/>. The EagleUp webpage serves as a warehouse for the most common electronic components, and provides easy design tutorials.

CadSoft's EAGLE PCB design software is available from element14, Premier Farnell's innovative community for design engineers, bringing Web 2.0 to engineers, along with over 10,000 technical documents and software tools. All versions of EAGLE contain DesignLink and are available for free download and evaluation.



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Students' designs may meld into Genoa's future

Advanced drafting teacher Phillip Jerbi (center) shows sophomore Justice Graf (right) Thursday how to apply scenery elements to his design of the Genoa Amtrak station during class at Genoa-Kingston High School. (Kyle Bursaw - kbursaw@shawmedia.com)



[Buy Daily Chronicle Photos »](#)

GENOA - Last week, which has been termed "D Week," was a little hectic for industrial technology students at Genoa-Kingston High School. "D" as in "drafting," that is.

Phillip Jerbi, industrial technology chair at the high school, each year tasks his students with solving real-world design problems. In the past, they've designed an animal shelter and rehabbed an art center.

After this month's competition, some Genoa-Kingston High School students might be able to say they had a hand in designing elements of Genoa's future Amtrak station. Fifteen sophomores, juniors and seniors entered projects in this year's American Institute of Architects Northern Illinois scholarship competition held Monday in Rockford. Jerbi suggested that students be tasked with designing the Amtrak station for this year's project. Officials announced in 2010 that Genoa had been selected as the site of a Chicago-Rockford-Dubuque rail line.



Genoa Administrative Consultant Joe Misurelli said Amtrak construction could start this year; it is expected to be in operation by 2014.

Students began working on their projects in November, designing everything in the Amtrak station from the parking lot to the ticket booths.

Jerbi said Amtrak officials worked with the American Institute of Architects to come up with project guidelines, and they indicated the best designs could be incorporated into the actual building. Judging took place Monday, and students from 10-15 schools participate each year. The competition results are expected later this month.

Using computer-aided design and Google SketchUp programs, G-K students submitted three-dimensional renderings and blueprints of the Amtrak station they designed from the ground up.

Students were given guidelines for maximum square footage, with the entire building not to exceed 10,000 square feet. Two green elements had to be included. The guidelines students were given were similar to what architects see from clientele, Jerbi said.

"I really like it because you get to make pretty much whatever you want," said sophomore Austin Gingerich. "[Jerbi] doesn't tell us we have to make something. He just gives us guidelines."

Jamie Meyer hopes the green elements she added to her design would stand out. Meyer, a junior, included pillars that connected to the building's roof. The pillars were designed to collect water that would be used for toilets and irrigation. She also included windows that hold in heat.

Meyer, who placed last week in the Illinois Drafting Educators Association for a different project, wants to become an architect.

"I really enjoyed it. It gave me a good idea of what I might be doing in the future," she said. "I definitely still love [architecture]. I probably love it even more after this project."

Jerbi said having students apply their skills to real-world projects, especially in their own community, has a lot of value.

"The opportunity to see part of their design actually in Genoa gives a



little more ownership to the students," he said. "It makes a huge difference when kids are making stuff that's going to be used in the community."

Junior Patrick Felvey participated in last year's project that required students to redesign an existing six-story building. Being able to design the Amtrak station proved a lot easier, he said. His green elements included a geothermal retention pond that would help heat and cool the building.

"It was a lot of fun and a good experience," Felvey said. "It's kind of cool since [the Amtrak] is going to be in Genoa."

GET INVOLVED

Area high school students can still get involved in a computer-aided design competition offered through Kishwaukee College.

Students can compete for cash prizes by constructing a "whirligig" prototype by fitting in as many pulley, wheel and axle, lever, inclined plane, wedge and screw elements as they can. Whirligigs are mechanical devices animated by wind. Students can use cardboard, fasteners and adhesives as necessary.

The competition is open to only the 10 high schools within Kishwaukee College's district. The competition is limited to one entry per student. Submissions must be received by March 30. The prize for first place is \$300; second place is \$200; and third place is \$100.

For more information, visit www.kishwaukeecollege.edu/cad and click on the "H.S. Competition 2012" link in the bottom right-hand corner of the home page.

For questions, contact Mark Schwendau, CAD Technology teacher at Kishwaukee College at Mark.Schwendau@kishwaukeecollege.edu or call at 815-825-2086, ext. 3480.

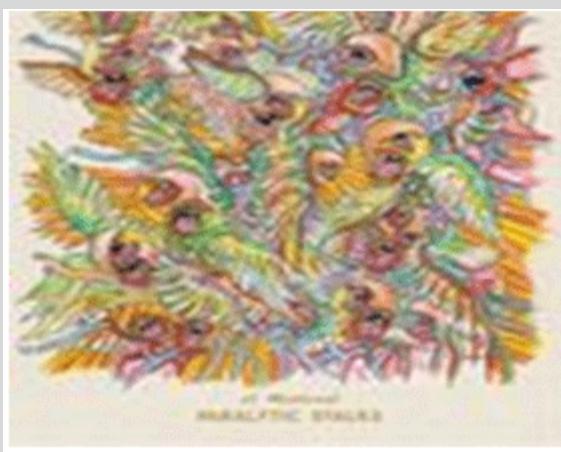


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Awesome Music Tech Projects From Art Decade, of Montreal & Dry The River

While some musicians still grumble about Twitter, others are diving in and making or collaborating on innovative art that combines their music and new tech tools. Art Decade released an animated video created using the iPad and Procreate App. of Montreal integrated projections into their live show via the Kinect for XBox 360 and Google's SketchUp 3D visualization tool. And Dry The River took it to the streets with posters that included an audio component that one listens to through tin cans attached to strings.



The music tech connection is rather obvious in these examples but I hope the music marketing connection is also clear. These projects and videos could obviously get music blog and media coverage and, in this case, are getting music industry coverage, but they could also tempt a variety of other web publishing genres from tech blogs to visual art blogs.

Western Sunrise Animated Video by Art Decade Using iPad & Procreate App

For the single [Western Sunrise](#) off the same-titled album, Boston-based [Art Decade](#) recently released a lovely animated video to match a lovely song.

The video was created using the iPad and [Procreate](#), an inexpensive [iPad](#)



app.

Director Whitney Alexander and animator Kipp Jarden take you behind the scenes and discuss the making of the Western Sunrise video.

of Montreal Live on Jimmy Fallon, Projections

Via Kinect & Google SketchUp

In preparation for their spring tour, Athens, GA-based of Montreal recently appeared on Jimmy Fallon to perform the single Dour Percentage off their recent release Paralytic Stalks. They also used the opportunity to test out their new stage show before an audience of millions and you can see the results above.

Wired's Angela Watercutter interviewed frontman Kevin Barnes and production designer Nick Gould who shared the process of creating the visuals projected during the live show.

They began with 300 images created by Barnes, his wife and his brother. Gould then used the Kinect for Xbox 360 to "turn the movements on the stage — whether from the band or dancers — into data the computers operating the projected visuals can translate."

Visuals were then projected onto 13 screens. To design the stage set, Gould used Google's 3D modeling tool SketchUp. In addition to designing the set, he was able to check out how it fit the studio the day before tech rehearsal using SketchUp and his iPad. He says, "I was able to zoom around a scale model of what our performance was going to look like in their studio, right down to the inch."

Dry The River: Listening Posters (An electronic string art project)

London-based Dry The River, who are doing a number of shows at SXSW, are building to the release of Shallow Bed in April.

RCA contacted branded content agency FOAM, who previously worked with Dry The River on the Horses street art project.

They actually debuted the album with the above string art posters each depicting an animal, one for each song, on the streets of London: "At the end of the string, the band used old fashioned Tin Can telephones to allow passers-by to listen to a song...Sophie [Yeoman] hand built each poster and fitted them with an Arduino / Wave Shield combo wired



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through the string to a speaker concealed in the bottom of a tin-can." These are all cool projects that do a nice job of extending music into technological realms.

Which do you think would leave a bigger impact if debuted at SXSW?

Hypebot Features Writer Clyde Smith maintains his freelance writing hub at [Flux Research](#) and music industry resources at [Music Biz Blogs](#). To suggest topics for Hypebot, contact: [clyde\(at\)fluxresearch\(dot\)com](mailto:clyde(at)fluxresearch(dot)com).



A view from inside the 3D manufacturing movement

By now, you've probably heard of 3D printing or additive manufacturing — the process of taking a digitally-generated design for an object and sending it to a 3D printer to be built up, layer by layer, using substances that resemble ceramics, plastics and metals.



It all sounds a bit like magic — but it has attracted the attention not just of DIY tech enthusiasts, but also of venture capitalists and tech entrepreneurs eager to discover the Next Big Thing. Some (including me) have predicted that 3D printing will lead to a new manufacturing renaissance in America, while others have compared the 3D manufacturing movement to the computer hobbyist movement that eventually gave us companies like Apple and Microsoft.

But is it really possible for an average person to learn 3D manufacturing — or is something best left to rocket scientists and industrial designers? New companies like Shapeways and MakerBot Industries are betting on the former, having already started the process of creating entire communities around 3D manufacturing. On Thursday, Shapeways hosted a two-hour workshop ("Design for 3D Printing") at the offices of New York



City venture capital firm [Union Square Ventures](#), where a group of twenty people learned how to design and print customized iPhone cases that could then be listed for sale on the Shapeways Web site. My customized iPhone case, it turns out, has a market value of \$30.36 — roughly comparable to what you'd pay for [a name-brand iPhone case at the Apple store](#).

It turns out that learning the basic process of how to design, print and sell a 3D object takes all of two hours and a fairly standard technology arsenal: a Macbook and an external mouse combined with a free Shapeways account and a free version of [Google SketchUp](#). Hours before the workshop was scheduled to start, each of the participants was emailed a starter file. As I found out later, this was the equivalent of being emailed an almost-finished Hemingway novel, where you have the opportunity to fill in the names of the main characters and make a few tweaks to the front cover before offering the book for sale to readers everywhere at a slight mark-up.



The first step in getting your design ready for market is to create a basic design concept in SketchUp, Google's free 3D modeling tool. Even if you're not a designer, the Google modeling functionality is amazingly intuitive — at least, as soon as you get used to manipulating an object with your mouse in three dimensions. While the idea of using a 3D modeling tool is enticing, the prospect of designing an object from scratch is, frankly, terrifying. This is where the starter file came in handy, since it already contained the exact specifications for an iPhone case.



3D printed objects during a class on 3D printing at Union Square Ventures on Thursday, Feb. 23, 2012. (Dominic Basulto) The next step is to customize your object. There's no reason why your case needs to look like a commodity. Since you're the creator here, there are various bells and whistles that you can use to customize it according to your specs, such as by adding your name. Using basic functionality to size and rotate the object, you can then "push" or "pull" the object in three dimensions and cut out holes. By twisting the object in 3D space, you can view on your screen what it looks like when you have carved your name into the case or added various other artistic doodads, such as circles, triangles or squares. Finally, once you've customized the case, you need to export the design file to Shapeways and get the model added to your free online account. Within minutes, my customized iPhone case had been accepted on the Shapeways site. By changing the materials used to print the case, I have the option to raise or lower the cost of printing the object. Part of the cost of printing the case was (thankfully) included in the price of the Skillshare class. For now, my object is listed as "private," but with a few quick steps, I could easily list the object for sale and pocket some extra dollars by selling a white, customized "Dominic" iPhone 4S case — by the millions, of course.

The level and quality of objects listed on the Shapeways site is continuing to grow. Some people have figured out how to print 3D dinosaurs for novelty value, while others are focused on printing 3D jewelry or practical objects for tech users. It's like [Etsy](#) meets [Kickstarter](#) meets an undergraduate architecture class. For average users, designing more than a basic shape can be frustrating. Frankly speaking, learning how to use Google SketchUp — from the perspective of a non-designer — is as frustrating as opening up Adobe Photoshop for the first time, and expecting to crank out an artistic masterpiece.

However, there are signs that 3D manufacturing could blossom into the Next Big Thing. In places like New York, where there is a potent combination of tech, design and artistic talent, it's easy to imagine the trend taking off with the DIY crowd. There's something very satisfying



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about knowing that you made something, especially if you can pocket a bit of cash from it.

As 3D printing becomes increasingly democratized, the true craftsman of the Internet era will be the people who are designing objects from scratch in small batches and then selling them online. As [the teaser copy for the course read](#), "We're on the edge of a new normal, where everyday products are custom made for and by every one of us." Some of the items that have been printed out using 3D printers are truly extraordinary. One day, it might even be possible to [print out a Stradivarius violin](#).





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Of Montreal Stage Trippy Live Show Using Kinect, Google SketchUp

Indie band of Montreal uses cool tech like Kinect and Google SketchUp for its psychedelic live show.



For its upcoming tour, indie rock band of Montreal created a trippy visual show using Microsoft's Kinect and Google SketchUp.

"I envisioned a video production that would be highly psychedelic and immersive, one that would enhance the darker aspects of our new material, but would also have the capacity to lift people's spirits in a very powerful and transportive way," of Montreal's frontman Kevin Barnes said in an e-mail to Wired. "I feel very proud to be a part of this Herculean art organism every night on tour."

LISTEN: 'Feminine Effects' by of Montreal

Each song of Montreal will play on the tour, [which begins Wednesday](#) in Jacksonville, Florida, will be augmented by a unique visual element made from 300 images created by Barnes, his wife Nina Barnes and his brother David Barnes. To get the images up on the stage's 13 screens, Kevin Barnes turned to production designer Nick Gould, who used the Xbox 360's Kinect attachment to turn the movements on the stage —



whether from the band or dancers — into data the computers operating the projected visuals can translate.

The result may look like a bad trip at a Jefferson Airplane show 40 years ago, but it brings songs from the band's [new album *Paralytic Stalks*](#) to life in freaky new ways — an appropriate choice for an Athens, Georgia, band known for its crazy musical experimentation.

"There is a rapidly expanding online community of people who have been able to [use the Microsoft Kinect to do really amazing things](#)," Gould said in an e-mail. "Thanks to their hard work, we have been able to adapt what is essentially a toy to be a part of our video show."

To design the show, Gould used Google's amateur modeling software [SketchUp](#) — "3-D modeling for dummies," as the production designer calls it. After watching just a few online tutorials, he was able to make a quick model of the set and determine what everything would look like in the real world.

His SketchUp designs came in handy when the band tried out its new stage show recently on *Late Night With Jimmy Fallon*. The SketchUp model let Gould see how the stage's geometry worked with his designs and let him tell the TV show's producers exactly what they would need. On the day of the shoot, everything went like clockwork, with no previous rehearsal.

"When I walked into the studio the day before for the tech walkthrough, all I did was bust out my iPad and I was able to zoom around a scale model of what our performance was going to look like in their studio, right down to the inch," Gould said.

Check out the band's trippy *Fallon* performance in the video below and listen to an exclusive of Montreal track — "Feminine Effects," the B-side to the band's 7-inch [Record Store Day](#) release with Deerhoof — above.



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FSX Aeroclube de Eldorado do Sul Scenery

Aeroclube de Eldorado do Sul (SIXE), RS, Brazil. This facility is an aviation school. A first version that will be upgraded with buildings as soon as possible. By Rogerio Picada.



Screenshot of Aeroclube de Eldorado do Sul Scenery.

I created this Aeroclube de Eldorado do Sul (school aviation) scenery using Airport Facilitator X (AFX from Flight1), Sbuilder X3.13, Google Earth and SDK from FSX Deluxe Ed, not required to be installed on your system to view the scenery.

This is the first version and as soon as I can, I will put buildings that I make with Sketchup 8 but not ready to add yet (and sorry my english)... this is a great learning curve...

I put nights lights even this airport doesn't have... waiting for comments...

Installation: Simply place the AFX_SIXE.bgl file in your Addon scenery/scenery folder.

Next, and I hope soon, I will learn how to put buildings that I did using sketchup...

Rogerio Picada

Cruz Alta, RS, Brasil

Read More : www.flyawaysimulation.com



How Desktop 3D Printing Factories Will Create the Next \$1 Trillion Industry

Michael Robinson writes: Don't worry if you've never heard of 3D printing. It's so new it's not on many radar screens yet.

But soon everyone will know about it. Still in its very early stages, 3D printing is destined to have a huge impact on the entire world economy.



These "desktop factories" will one day become a \$1 trillion industry-completely changing the traditional factory model forever.

It's what's known as a "disruptive technology."

Here's why...

By the end of this decade, everyone from consumers to big businesses to solo inventors will be able to make their own unique products in just a couple of hours.

Need a special tool?... Or a new spare part?

Soon you will be able to fire up the 3D printer and make one from composite materials.

Indeed, I recently watched a YouTube video of Z Corp. making an adjustable wrench from high-tech compounds. It was a copy made from metal.



Though it weighed less than the original, the "printed" wrench worked just as well and looked every bit as strong.

And let's not gloss over the medical products that can be created by these revolutionary printers. An 83-year-old woman in Europe recently received a new jaw doctors printed with titanium powder.

Medical team members said they made the implant in just a few hours compared with the several days usually required with existing methods. That's why I say this technology symbolizes the Era of Radical Change. Now, anyone who knows computer basics can make or invent products on the fly.

3D Printing: A New Wave of Innovation

Technically, you don't really "print" a new product, though the process is similar. Rather than putting ink on paper, the system creates the product by adding thin layers of special polymers and some metals.

This is literally "cutting edge" high tech that is destined to become big business.

I believe it is the 21st century equivalent of the laser printer and the dawn of desktop publishing in the 1980s that changed the entire print industry.

But don't take my word for it...

Let's hear from Hewlett-Packard (NYSE: HPQ), the high-tech giant that knows both types of printers extremely well.

The Silicon Valley leader now offers a high-end unit made for professional use. Its DesignJet Color 3D printer reportedly sells for \$20,000.

But consider this: 3D printing will soon come to the masses at prices they can afford.

Today, MakerBot sells its Replicator for \$1,749. Its users can download free modeling software such as TinkerCAD or Sketchup from Google Inc. (NASDAQ: GOOG) to print their own products.

Small-cap leader 3D Systems (NYSE: DDD) also recently launched the Cube, a competing device that lists for \$1,299. A related website, Cubify.com, combines the simplicity of a coloring book with robust digital



resources.

The firm's CEO, Abraham N. Reichental, told BBC news that 3D Systems already has 1,000 workers -- and nearly as many patents.

Now just think of what will happen when the price of these machines drops to \$500....

We're talking mass customization of a wide range of goods, from forks to jewelry to high-tech ski helmets.

When this happens, 3D printing will undoubtedly unleash a whole new wave of innovation.

And for a very simple reason...

Inventors will be able to use a low-cost 3D printer to truly unleash the power of their imaginations.

When that happens creativity has the potential to increase exponentially. There will be no more spending thousands of dollars to have a specialty firm make a mold before you can even build the prototype.

3D Printing: Endless Possibilities

Now you know why the top brass at the Smithsonian just gave 3D printing their stamp of approval.

You see, the world's largest museum boasts more than 137 million objects. But only a few remain on display at any point in time.

With 3D printing, officials can scan originals with special software. Then they can "print" replicas they can loan to other museums.

At the very least, the Smithsonian can afford to make digital 3D images of its vast collection it can then store for later access.

According to a recent story by CNET, the museum already touts a 3D printed-replica of a Thomas Jefferson statue, which they say is the "largest 3D printed museum quality historical replica" on earth.

Meanwhile, 3D printing has also created other products with a definite "wow" factor.

Take the case of the two British researchers who printed their own spy plane in a week -- it took two days to design on a computer and five days to make.



The small, unmanned plane with a wingspan of about 4.5 feet soared at 100 MPH. You can watch a YouTube video of what's touted as the first flight of its kind here.

The European aerospace giant EADS also uses the technology to make specialty aircraft parts.

They've started with items like brackets that hold parts in place. But their long-term goal is to print the entire wing of a jetliner.

German supplier EOS says it gets parts orders from car and aerospace firms. And also from... dentists.

EOS says it can create up to 450 dental crowns in one day. That compares with about a dozen for most firms using conventional systems.

Not even music is immune to the disruptive impact of 3D printing. Last year, EOS used a specialty compound to make parts for a violin.

A violin maker assembled the parts into a working instrument that was then played by a concert violinist.

Clearly, 3D printing is destined to have a huge impact on the global economy.

I believe it could be worth \$1 trillion in as little as a decade.

How is that, you ask?....

It's a matter of simple math.

The global economy measures about \$60 trillion. Of that, manufacturing accounts for 17%, or \$10.2 trillion.

If 3D printing captures just 10% of the sector that would total just over \$1 trillion.

That's why I say we will see lots of opportunities to invest directly in this technology, or in firms using it to improve profit margins.

Either way, it is time to open your eyes to the possibilities of 3D printing. Otherwise you'll miss the Next Big Thing that will change the future of manufacturing.



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Implementing BIM in the Design Phase is Upcoming Training Session on LearnVirtual

"We are focusing on how to take advantage of BIM during the design phase," said Thomas M. Simmons

Oakland, CA (PRWEB)

LearnVirtual's second session of How to Implement BIM into the Practice of Architecture education series is focused on [Implementing BIM in the Design Phase](#). This online webinar on Wednesday, March 21, at 12pm Pacific, qualifies for 1.5 AIA/CES Learning Units.

Participants in the program will learn about the challenges and opportunities of implementing BIM early in a project. They will also explore how to integrate BIM with popular design tools such as Google SketchUp.

"With this program we are focusing on how to take advantage of BIM during the design phase in order to fully leverage the model," said Thomas M. Simmons, series instructor.

The How to Implement BIM into the Practice of Architecture series takes place weekly on Wednesdays at 12pm Pacific. Other topics include Visualization with BIM on March 28; Strategies for Creating Documents from a BIM Model on April 4; Collaboration from Small to Large Teams on April 11; and Integrating Sustainability into the BIM Process on April 18.

Thomas M. Simmons has worked with architecture, engineering, and construction firms in San Francisco, Houston, Portland and Seattle, to implement BIM. He is recognized for his expertise in Building Information Modeling and the implementation of its technology.

[LearnVirtual](#) specializes in the design and implementation of education programs for AEC professionals. With an emphasis on e-learning, custom corporate education programs, and multi-venue hybrid education, LearnVirtual empowers individuals and companies with professional skills



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and industry intelligence that can be applied in everyday work environments.



Portwest agrees to support Town of Tomorrow competition

The Westport Town of Tomorrow competition received a significant boost ahead of the competition in April when Westport clothing company, Portwest, agreed to become a major sponsor.

The annual competition gives second level students the chances to redesign different parts of Westport town, and local outdoor clothing manufacturer, Portwest have agreed to be a sponsor of the 2012 Westport Town of Tomorrow Urban Design Competition.

The competition involves the re-design of the centre of the Heritage Town of Westport using the popular architectural software Google SketchUp, and Portwest's Owen Hughes said that he 'would love to support this project'.

The competition, which was first launched in 2007 by Daniela Brica, the European 3D Captain from Google, involves the re-design of the centre of 'Virtual' Westport using the popular architectural software, Google SketchUp.

The competition is supported by Westport Town Council and Mayo County Council and County Manager, Peter Hynes said they were expecting some fabulous entries.

"Each student or team can choose a section of the town to work with. Their design brief is purposely rather loose so they can take full advantage of the Google design software, whilst enabling them to make the maximum use of their imagination. If previous year's entries are anything to go by we are expecting some fabulous new ideas on how our Heritage Town could be developed in the years to come," he said.

Details of this Google supported competition can be found on the website: <https://sites.google.com/site/townoftomorrow2011/>. Students can register via this web site and the deadline is February 29 with the final models being submitted by March 31.



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The Judges will once again be from Google in Colorado and the Presentation evening is scheduled for the end of April.

Brendan Hafferty of the Town of Tomorrow competition said this year's competition has attracted students from all over Mayo and encouraged other Mayo businesses to join Portwest in supporting the competition. They can do so by contacting Brendan at bphafferty@anu.ie or via 086 858 4873 or 098 66674.

When the competition was first held some several years ago it was confined to Westport's three post-primary schools, but as its popularity grew it was decided to extend it to the whole county of Mayo.



Local teachers recognized for innovation in the classroom

Santa Ynez Valley teachers Michael Daniels, John Livingston, and Chris Scott have been recognized for their innovation in the classroom. The trio were among the group of outstanding Santa Barbara County teachers honored at the annual Teachers Network Recognition Dinner at the Santa Ynez Valley Marriott in Buellton on Feb. 23.

The event, held by the Santa Barbara County Education Office, awards exceptional curriculum projects with grants sponsored by local business partners.

In his third year at Olive Grove Charter School, Daniels has brought together technology, geometry, and algebra with interior and exterior design of a home with his "Design Your Own Dream Home" project.

Students first hand-draft their dream home with pencil, paper, and simple drafting tools such as a compass and a straightedge. They then draft the main floor of their home in a computer-aided design (CAD) program, where they dimension the main floor, add a title block, and notes, he said. K-12 Olive Grove, the Los Olivos School District's charter school, has incorporated technology such as advanced computer and science labs and online curriculum into educating students, said Daniels, who teaches all levels of high school math, from pre-algebra to calculus. He hopes to instruct physics and a drafting course soon.

Adjacent to Los Olivos School, Olive Grove offers independent home-study programs. Olive Grove also has satellite offices in Lompoc, Santa Maria, Santa Barbara, San Luis Obispo and at Santa Barbara City College. With the \$500 service learning grant from CalServe, Daniels plans to spend the money on upgrading classroom technology.

"I am honored that the business community has recognized my idea to fuse technology education, mathematics, and design and to incorporate this into our Olive Grove students' education," he said in an email.



Scott, in his sixth year at Santa Ynez School, teaches seventh- and eighth-grade history. He received two grants totaling \$700 for separate class projects. He has received Teachers Network grants in the past including two in 2011.

He said the recognition from the Teachers Network is an honor and inspiring.

"Of course it's great to be recognized, but I really like the grant projects as they encourage me to try new ways to develop the students' learning," he said in an email.

One of the grants, \$500 from CalServe, is for a project titled "Free and Easy Digital Animation Storytelling." Scott said the digital storytelling project gives students the chance to extend their learning through the use of free web 2.0 resources.

"Digital storytelling can be done through podcasts, movies, or digital animation and the project has been well received by my students," he said. In another project, students conceptually redesigned the school's student drop-off area to be more efficient after observing Santa Ynez School's traffic patterns over the school year using the Google SketchUp program. SketchUp is a free, three-dimensional modeling software tool marketed by Google.

The project earned Scott a \$200 Care for Our Earth grant funded by the Santa Barbara County Air Pollution Control District and Pacific Gas and Electric Co.

At Santa Ynez Valley Charter School, Livingston, a sixth-grade teacher, and Tonya Crandall, garden educator manager, have teamed up for the "Pumps, Pizza, and the Sun" project.

Livingston gave much of the credit to Crandall for the collaboration meant to study the topic of energy and how to save energy.

Funded by a \$200 Care for Our Earth Grant, students study various sources of energy, but focus on solar energy.

Through hands-on projects, field trips, and in-class visitors, students will take apart a solar powered light and set up a temporary pond and solar



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powered fountain. Students will also visit a local solar power dealer and build solar ovens using pizza boxes from the school's hot lunch program.

"We feel very grateful to have received this grant," Crandall said in an email. "We thank our sponsors for helping to make the subject of solar power more meaningful for the students."



Microsol Resources to Offer V-Ray by Chaos Group as Part of Its Technology Solutions

Microsol Resources Corporation, a recognized leader in BIM technology solutions, as well as a leading Autodesk Gold Partner serving the architectural, engineering and construction industries, is pleased to announce that it is now a reseller of V-Ray by Chaos Group.

V-Ray allows users to quickly and easily create realistic images while giving them full control over the 3D production process. It offers uncompromised image quality, realistic touches, and fine details resulting from precision lighting and proper shading. "We are always looking for ways to help our customers improve their workflow through integrated technology solutions," says Emilio Krausz, President, Microsol Resources. "V-Ray offers speed, precision, powerful features, and the ease of use so critical for 3D artists and visualization specialists. We are delighted that we are now able to offer it to our clients."

The V-Ray rendering engine has become the preferred solution for creating visualizations of photorealistic design concepts. Renowned studios around the world, such as Blur Studio, Neoscape, IKEA, Pure, Citroen, Siemens AG, and Spine 3D, embrace the power of V-Ray in their production pipeline. V-Ray's strengths for building professionals include improved efficiency and speed optimization, physically accurate global illumination and area lights, interactive rendering, specialized effects, and intuitive features.

"We are delighted to partner with Microsol Resources to represent V-Ray in the United States. Their attention to customer service and providing best solutions to complement BIM and rendering technologies, along with a detailed understanding of the marketplace, will help introduce our products to the creative people who can most benefit from them," says Deyan Evlogiev, the Territory Channel Manager of Chaos Group.



V-Ray is available for 3DS Max, Maya, Rhino, Softimage, and SketchUp. Demos and a free 30-day non-commercial trial of V-Ray are available by calling Microsol Resources or visiting the website at www.microsolresources.com. For more complete product features and details, visit the Chaos Group website at www.chaosgroup.com. For the latest V-Ray tutorials, visit the Chaos Group YouTube channel: <http://www.youtube.com/ChaosGroupTV?pr=0214>

About Microsol Resources

Founded in 1986 as a reseller of engineering and architecture software, Microsol Resources Corporation is a recognized leader in building information modeling (BIM) technology solutions, as well as an Autodesk Gold Value Added Reseller with offices in New York, NY and Philadelphia, PA. With a professional staff of BIM/CAD Applications Experts focused on supporting the AEC community, and well over 4,000 clients throughout the U.S., Microsol Resources is one of Autodesk's largest resellers in the United States. Among the services provided by Microsol Resources are telephone and onsite support, training, implementation services, standards development and management services.

For more information, please visit www.microsolresources.com

About Chaos Group

Chaos Group is a leading provider of state-of-the-art rendering solutions for the media, entertainment, and design industries. Chaos Group started its business in 1997 by establishing a CG production studio for 3D design and animation services. For over a decade, Chaos Group's flagship rendering software, V-Ray®, has set the standard for speed, quality, reliability and ease of use, and it has become the rendering engine of choice for renowned international studios. Chaos Group works closely with



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customers from around the world to create the best tools for their workflow. Inspired by their imaginative creations, the company passionately pursues advances in rendering technology and continues to improve the software needed to communicate these visions.

Chaos Group proudly supports the 3D community through a suite of innovative software solutions: V-Ray® for Autodesk® 3ds Max®, V-Ray® for Autodesk® Maya®, V-Ray for Rhino®, V-Ray for SketchUp®, Phoenix FD and Pdplayer.

For more information, please visit www.chaosgroup.com

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SketchUp for Woodworkers

Learn the basics of the program SketchUp, a simple 3D drawing program, to help you design your woodworking projects. The first class will include an introduction of basic concepts involved in creating a 3D model.

In the second class, you will take your 3D model and create a construction plan. Materials: Students will need to bring a laptop and a mouse with a scroll wheel. You should download and install the free version of SketchUp onto the laptop. If necessary, the instructor will assist in the download and installation of SketchUp.

Location:

DIY Wood Studio

3231 4th Ave. S. Studio A

Fargo, ND 58103



FEEDBACK

I have looked at your magazine and am very proud of what you and your team have accomplished.

Jim Leggitt

I really enjoy reading your magazine...and you and your team do a great job of making it happen

Jamey McFadden

Congratulations on your wonderful publication.

edson mahfuz

I am very proud to be part of SketchUp magazine.

Susan Schlenger

Very nice magazine.

Eike Thiele

It looks great and I love how you showed the graphics.

Susan Schlenger



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Looks like a
great initiative.

Thomas

The magazine
looks fantastic!

Patrick Hoesly

The magazine
is good looking.

Quintus Verburg

We enjoyed its
content very much.

Irene

I have seen your
online magazine,
nice work.

Edward van
Schooten

Thanks for the post
magazine, this increase
my knowledge in the field
of modeling.

Ricco Ananto



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