

## DataCAD Boston Users Group

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A Committee of the Boston Society of Architects

### July 2004 DBUG Meeting

July 22, 2004

Host: Evan H. Shu / Shu Associates  
Boston Society of Architects Bldg.  
Boston, MA

### Meeting Notes & Announcements

A dozen DBUGers gathered at the Boston Society of Architects building for this mid-Summer night's meeting and program.

In general announcements, Michael Smith announced that he would be taking over the DataCAD Project Book series from Dr. Leonard Nasman, and so the next DataCAD 11 Project Book would be published through Tech Ed Concepts later this year.

### 30 Second Drafting Tips & Tricks

Evan Shu started the program by collecting tips from the group to add to his own in a glass fishbowl for demonstration selection. However, before beginning, he noted two major concepts that he considered key to achieving fast 2D production drawing in DataCAD:

**1) Use Two-handed drafting: don't go to the inkwell!** He noted that power drafters in DataCAD use the two-handed approach: one hand is on the mouse keeping the cursor in the drawing area and focused on the task; the other hand is on the keyboard using keyboard shortcuts to change to the proper menu command. Using the mouse to pick all your menu selections is like dipping your quill pen in the corner inkwell with each menu change.

**2) Use a Customized Default Drawing to get a head start, every time!** By simply using a basic default drawing that has all your settings (text, dimension, plotting, grids, layers, etc.) in place already, you will save as much as a half-hour on each drafting task. Evan showed how to create a basic six layer default drawing, where to save it, and how to use it to begin a new drawing.

With those basic concepts in place, Evan and others in the group described and demonstrated the following 30 second tips.

**Mother of Them All: Identify-Set All.** This tip is arguably the best of them all. In an instant you can set your cursor to match any linetype, color, spacing, text size and font, or hatch type. This command is done via the *Identify* menu (I), then the selection *Set All*. Best used in a keyboard macro but unfortunately is not available for DataCAD LT users.

**Use the Big Cursor.** Hit the *Plus* key (Shift-Equal) to extend your cursor out the the edges for proper alignment needs.

**Middle Click is Enter.** When you have a value on your input line (dimension distance, wall width, etc.), by using either your

middle mouse button or right mouse button, the current value will be accepted just as if you reached over to hit your Enter key.

**Show Object Snap.** In DataCAD 11, turning on your "Show Object Snap" (Tools/Program Preferences/Misc/Drawing Indicators) is helpful in confirming that you have grabbed the snap point that you aimed for.

**The Grid by Geoff Langdon.** Use the Snap Grid as a guide for doing any kind of modular layouts, e.g. ceiling plans and furniture plans can use a 2' by 2' grid, some site plans can use a 10' by 10' grid.

**Change Text Contents.** A big time saver in editing your drawing is being able to edit any line of existing text. You can do it via the *Change* menu, then *Text* and *Contents*. But you can also create a custom keyboard macro: T ^ ; ^ F0 ^ S8 ^ S2 ^ F1 ^ \$

**Instant Reference Point.** In measuring tasks all you need do is click (or snap) to any point, then release (right button). Now your relative 0,0 point is at your last click point and you can find the relative distance to any other point by moving your cursor and watching the display.

**Reference Point by Neil Blanchard.** The best time to use the standard reference point command (tilde ~ key) is when you are in the middle of drawing a line and you want it to end a set distance from another line, e.g. 3' away from the other jamb.

**Get Smart by Neil Blanchard.** Use *Shift-Middle Click* to get to the "Get X, Get Y, etc., options.

**Two Line Trim** not only cuts lines but also extends lines to the intersection point and is a very useful all around editing tool. Best used in a keyboard macro: C ^ ; ^ F9 ^ F5 ^ F1 ^ \$

**Free Trim by Michael Smith.** Get to know this very useful cleanup command under *Cleanup/S5* that basically takes a group of entities and erases the "in-between" entities.

**Partial Erase.** Another major editing tool is *Partial Erase (Erase/Partial)*, which takes any Entity and erases part of it. It demands its own keyboard macro as in our ALT-E: E ^ ; ^ F7 ^ F9 ^ \$

**Rotated Cursor.** In angled floor plans, it is often helpful to rotate your cursor to match the angled wall. Hit your B key (or use the *Geometry/Tangents* menu), and touch your cursor to the angled line to match. Also works for also for placing symbols at angles.

*Perfect Pitch* by Geoff Langdon. If you draw the rise and run of your roof pitch as X-Y lines (i.e. the two sides of a right triangle), then pick *Cleanup/Weld Line* and pick those two lines, the command will turn those two lines into one line at the correct roof pitch.

*Aligned Dimensions*. In cases where “string dimensions” are not needed, its best to leave your linear dimensions set as “Aligned” as that will work for both vertical and horizontal, as well as angled dimensions with no need to switch between settings.

*Contour Search to Find Voids*. When hatching any area with voids (elevation siding with windows, etc.), add in temporary cross lines that “bridge” any void areas to the perimeter. Now you can use the *Boundary/Contour Search* command and it will trace a contour that includes the voids but still gives you a seamless hatch pattern.

*Curving Driveways or Kidney Shapes*. Use a single polyline, then offset to create the matching side. Or, use Walls at your driveway width, then draw a short straight wall segment, then *Curves/Tangents/Dynamic* (Ortho off) and you can draw two line arcs springing from the straight line segment.

*3 Line Offset Walls*. There are a host of uses for 3 line walls, but most require the center line to be offset to one side or another (e.g. gypsum over block). The cheap trick to get the offset is to use the 4 line wall command and specify a zero cavity. Now you can independently set your inner and outer walls to match your required offset.

*Panning and Zooming*. DataCAD 11ers should make sure they update to 11.01.02 (*Help/Check for Update*). By holding down your CTRL key and using the wheel you can zoom your drawing up and down. By holding down your CTRL-ALT key, then clicking and holding down your left mouse button, you can drag your drawing sheet left and right.

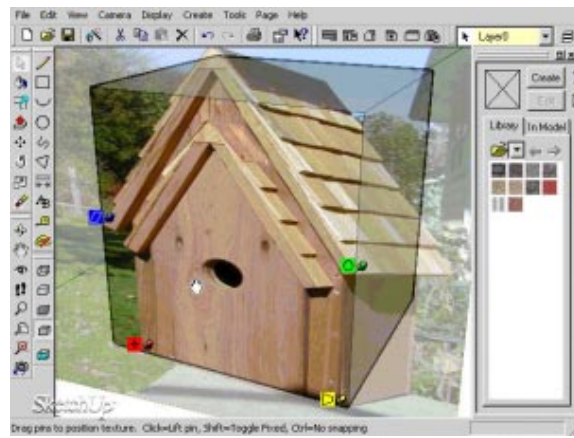
*Note*: these tips and more are explained in more detail in the August 2004 issue of *Cheap Tricks*.

## SketchUp 4.0

Chuck Plaisted then took the group through the most important new features of *SketchUp 4.0* such as *The Ruby Scripting Interface*, *Face Me*, *The Intersector*, *Follow Me* and, perhaps most interesting, the *Texture Tweaker*.

*The Ruby Interface* is a way to use a scripting language to create automatic routines. Sample provided scripts include *box.rb*, which shows how to create simple geometry and use a dialog box prompting for user input. *Animation.rb* shows how to create animations in SketchUp with various camera commands. *Contextmenu.rb* shows how to add new choices to context menu. *Attributes.rb* shows how to attach attribute data (e.g. cost, material, etc.) to SketchUp entities. *Linetool.rb* shows how to create special function tools in SketchUp. And *selection.rb* show how to traverse a model and select geometry.

**Figure 1:** working with SketchUp 4.0's Texture Tweaker



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*Face Me* is a clever feature that allows a single polygon face to always face the camera angle. This feature allows you to use single face bitmap entourage like people and landscape in your renderings, which dramatically reduces file size and rendering times needed.

The *Intersector* is a “Boolean-like” tool that allows you to find and edit 3D shapes to other 3D shapes, such as roof moldings or ceiling cornices. In normal 3D renderings, such intersections “hide” the shape behind, while this feature draws and cuts the shape “to fit.”

*Follow Me* is a CAD carpenter’s dream. You can take any profile and drag it along a line or edge of a plane. So, for example, a wood molding profile can be extruded along three sides of a door opening to create a fully trimmed opening.

Chuck spent the most time demonstrating the *Texture Tweaker*, which is a feature similar to *PhotoModeler* to apply 2D bitmap images dynamically to 3D forms. The way it works is to take your 2D elevation photos and allows you to handle them like a rubber sheet. You use “pins” to fix known points of the image to your model face, then you pick up corners of the image (yellow pins) and pull them such that the image alignments conform to the model face. Once you are finished stretching, the photo image is cropped to the perimeter of the model shape, giving you a quick & dirty 3D photo-realistic rendering. (*Fig. 1 above*.)

He noted that these major improvements to SketchUp 4.0 make it well-worth the \$100 upgrade price for previous owners of SketchUp.

## 3D Animated Tutorials

As usual, time pressures squeezed the final presentation, but Evan managed to show a bit of Matthew Cockroft’s *3D Animated Tutorials*, which are available on CDs through *Cheap Tricks Ware (M26-AV)*. These quality tutorials take a project from beginning to end via 29 individual onscreen animated tutorials. One drawback for US folks is that the dimensions are all done in the metric system but the narrative provided is in a very comforting and reassuring “down under” accent!

With that done, the July meeting of DBUG was adjourned out into the good night about 9 p.m. -- *Notes by Evan H. Shu, FAIA*