

DataCAD Boston Users Group

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A Committee of the Boston Society of Architects

A very good turnout of some 25 folks came out on this wintry evening for the DBUG meeting hosted by Mike Smith and *Signature Architects*. In addition, thanks to a visual webcasting setup by Geoff Langdon via *GoToMeeting* <www.gotomeeting.com>, another 12-15 people from various locations around the world (UK, Australia, all parts of the US) also dropped in to see what DBUG was up to. On our video projection screen, we would hear a little beep with a message that signaled “so & so has just joined your meeting.” Alas, we were only able to broadcast video, no sound, and we did not discover the “chat box” until much later, so it probably ended up being a very slow and boring slide show for most of our Internet audience. Still, this represented an exciting first step toward making these excellent DBUG meetings accessible to many more people.

Introduction to LEED

There has been a lot of buzz in the architectural world this past year about the LEED (Leadership in Energy and Environmental Design) ratings for buildings. So, in a timely program, Peter Bradley and Peter Gorer of Hascomb, Faithful and Gould gave a Powerpoint presentation explaining what LEED is all about. In a nutshell, it is a voluntary rating program that can qualify both new and existing buildings to achieve LEED “certified,” “silver,” “gold,” or “platinum” status based on how well the building is designed, built, and operated according to so-called “green” standards of energy use and consumption.

Based on the materials used, the construction techniques,

the travel distance for shipping materials, the mechanical systems used, etc. the project earns a set number of points or credits. Before beginning any ratings process, a project has to first fulfill certain “prerequisites,” which if not met, can disqualify a project right away. Secondly, a project can be “registered” for LEED rating but until it is “certified” it has no rating. (Numerous buildings are so-called “greenwashed” by being registered but never actually submit the documentation to get certified.) All rating categories are purely objective and measurable, so subjective intangibles are in large part taken out of the equation.

In answer to the questions of “Why do it?” and “How much does it cost?” both Peters cited statistics showing that governmental, institutional, and non-profit organizations are leading the way in asking for and in some cases requiring LEED certification for their projects. If your firm wants to do work for this type of client, it would behoove the firm to get some of their members trained in LEED. A rule-of-thumb estimate is that it can add from 2% to 10% to the overall initial capital cost of the project — but would reduce costs over the life cycle of the the building. There are certainly other “green” rating systems like Green Globes and Energy Star, but certainly LEED has taken the substantial lead (pun intended) within the construction industry as a whole.

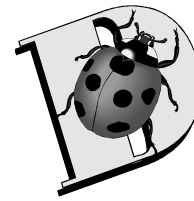
These Are a Few of Our Favorite Things

Mike Smith presented next and got us back to CAD issues, as well as other related computer issues. First, he reviewed his office’s favorite keyboard shortcuts as shown below.

Signature Architects' Favorite Keyboard Shortcuts

shortcut	function	notes
Alt+B	scale	Goes to Plotter/Scale menu; select scale for use with Text Scale, etc.
Alt+C	clip cube menu	Goes to Clip Cube menu
Alt+D	mltlyout details	Goes to the MltLayout menu and displays the current MSP sheet
Alt+E	<i>turn off layer by entity</i>	<i>Place cursor on entity which is on the layer you want to turn off. that layer will turn off.</i>
Alt+F	perpendicular snap	Toggles perpendicular snapping ON/OFF
Alt+G	3D GotoView Menu	Go to 3D GotoView Menu
Alt+H	selection sets – by color	Clears previous selection set 8, makes it active and prompts you to mask by color
Alt+I	<i>identify, set-all</i>	<i>Place cursor on line to identify, then invoke the macro. matches line type, spacing color & layer</i>
Alt+M	layout in Multi-Scale-Plot	Puts you in Multi-Scale-Plotting to lay out the current detail
Alt+Q	save goto view 10	Saves current view as Goto View #10.
Alt+V	match current line settings	Select entity to match all current line settings. (use in conjunction with ALT-I)
Alt+X	<i>edit text by entity</i>	<i>Place cursor on text entity to edit text contents</i>
Alt+Y	create and name new layer	Creates new layer and prompts you to name it
Alt+Z	save 3D GotoView	Goes to 3D GotoView and prompts you to enter a name

NOTE: *Italics* denote a keyboard shortcut which requires cursor placement *before* invoking the macro.



If you want to use any of these shortcuts, you need to put the following coding in your own DCADWIN.MCR file (where the first letter denotes the letter key that is used with the ALT key to invoke the command.

```
B^: ^S5^F4
C^: ^S8^S9^S7
D^: ^S5^S1^S8^S0
E^: ^F3^F1^S8^S0^S0^;
F^: ^S3^F8^;
G^: ^F2
H^: ^S2^F4^F8^F5^F0^F1^F8^S0^F2^F8^F3^F0^F2^S9
I^: ^S1^S8^S0
M^: ^S5^S1^S3
Q^: ^F2^S6^F1^S0
V^: ^F0^S6^S7^S6
X^: ^F0^S8^F1^S2^S
Y^: ^F3^F9^S0^F6^S7^S7^S7^S7^S7^S7^S7^S7^S5^S4^S3^S2^S1^F0^F9^F8^F7^F6^F5^F4^F3^F2^F1
Z^: ^V^S5^S5
```

Next Mike reviewed how you can edit your Distances menu to include common architectural distances such as 3-5/8", 3 1/2", 1 5/8", or 1 1/2". The changes are made via Utility/Settings/EditDefs/Distances, then ADD (or Change/Delete) up to a maximum of 18 values in any single file. Distances are always listed in ascending order, so also beware that new value/locations may alter any keyboard or icon macro that uses a set distance from this menu. Make sure you do a "Save File" if you want to use these new distances in any other drawing file (use Load File command). The default file is named DCADWIN.DIS but you can pick a new name for your customized file such as *NEW.DIS*.

Favorite New Gadget

CDex is a free CD-to-MP3 "ripper," available at <cdexos.sourceforge.net>, so you can store all your CDs on a compact MP3 player or laptop and bring your entire music library with you wherever you roam.

Favorite Unknown & Little Used DataCAD Tools

- *Geometry/Intersection* (actually provides snappable pt)
- *Measures/Incl. Angle & Excl.Angle*
- *Object Snap/Nearest* (only?/best use is for symbols on walls, like electrical outlets)
- *Toolbox* dropdown (use *Configure* to list your favorite macros)
- *Spelling* (Tools menu)
- *New DataCAD 11 Move Options for SPB Fills* (Move menu: *In Front/Behind/To Front/To Back/Swap*. Important Note: *only* works for entities on the *same* layer.)

Should be a Favorite: Symbol Browser

Mike made another pitch for the Symbol Browser as a better way to handle symbols instead of the old Template paradigm. He did a quick review of the various commands invoked from the SB window and emphasized that you will not have the old blank templates problem (the No. 1 Tech

support problem) with the Symbol Browser — unless of course, you call up an old "relative path" template from the Symbol Browser menu! Note that in exploding a symbol, you now have an option (Current Layer) which when toggled will either explode your symbol into the various layers it was originally saved from OR all onto the current active layer.

Grand Finale: AutoCAD, let's see you try this one!

In a final coup-de-grace to this meeting, Mike related a problem where the structural engineers needed to know the base elevations of each individual steel column which were to be situated in an array on top of a slab that was being sloped in various directions for drainage. A very tough problem for any engineer, mathematician, or topologist — but for those who have DataCAD 11, it was a breeze using the Symbol — "On Polygon" command.

By using 3 Edge Polygons and snapping to the ridge corners and the drainage point(s), Mike was able to quickly construct the sloping concrete slab surface in 3D. Next he "dropped" symbols at each column location point using these steps:

- Open the Symbol Browser (SB). Find any symbol that has its insertion point at the BASE of the symbol, and pick it.
- Click on the **Options** folder (green one in the upper right corner of the SB). Pick **Z Offset**.
- In the menu that appear at the left side of your screen, make sure **On Polygon** is turned on.
- Right-click once to back out of that menu.
- Left-click or snap to the points on the 3D polygons (as long as the thing you are snapping to is 2D, **On Polygon** will take precedence and the polygon is what will be snapped to. If you are snapping to a 3D entity, make sure it is BELOW the z-heights of the polygons, and once again **On Polygon** will take precedence and the polygon is what will be snapped to.)

Now you can use Identify on each symbol to find the exact Z-base elevation where that symbol met the sloping polygon. *Ouila!* Take that AutoCAD!

With that excellent spirit-lifter, DBUG closed the books on another eventful and educational meeting.

— Meeting Notes by Evan H. Shu, FAIA