

## DataCAD Boston Users Group

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A Committee of the Boston Society of Architects

### Welcome & Announcements.

Some 15 DBUGers braved traffic and parking obstacles in making into downtown Boston for this month's meeting at the Boston Society of Architects building. In announcements, Evan Shu noted next month's meeting would be hosted by GSD Associates in Andover [date now set for May 12, 2005]. Geoff Langdon said that Ivan Bereznicki Associates in Cambridge, Mass. was looking for help [he uses ALLPLAN but will train a DataCADer] and that the College of Cardinals was also looking for a good man.

After resolving some display issues [a switch of projectors solved the problem], Mark Madura welcomed all. He noted that DATACAD was already at work on the next update to DataCAD 11. Among the fixes would be one to a 3D Section bug. But some interesting new feature updates include: 1) view dependent editing tools that are aware of your current view projection (e.g. Move takes you to 3D Move when in a 3D view and 2D Move when in a 2D view; 2) new precision choices for architectural scales such as 64ths/128ths/256ths; 3) a new DXF/DWG export option to merge all symbol layers to layer 0 (will eliminate creation of ghost layers); 4) a Repath option added to the Reference File Manager; and 5) a new option to send DataCAD Backup (DBK) files to the Windows Recycle Bin instead of being fully deleted.

### DATACAD CEO using DataCAD

Mark presented a few of his favorite cheap tricks in showing how he developed design drawing and renderings for the now completed office renovations at DataCAD central.

\* You can grab bitmaps of appliance elevations from manufacturers' websites and make these into bitmap "tiles" for application to your 3D models for realistic interior renderings. He grabs actual Wilson Art laminate swatches to get the realistic counter rendering. He also says to grab the most detailed appliance elevation you can (e.g. from [www.ge.com](http://www.ge.com)). The cheap trick is to locate the actual swatch in the lower left corner a new square bitmap. Any remaining area in the square should be colored black for alpha channel transparency. Now when scaled properly (CTRL-right click/Rendering Settings/Texture Scale), your swatch will fill the entire face of the polygon.

**April DBUG Meeting**  
**DBUG Meeting**  
**April 14, 2005**  
**Host: DATACAD & Barriere Design Assocs.**  
**BSA Building, Boston, MA**



**Figure:** Rendering of new DataCAD conference room by Mark Madura

\* In working with bitmap tiles, Mark likes using *Jasc Paint Shop Pro 9* as it has a Make Tiles feature. Creating "seamless" tiles is a bit of an art form, this program gives you control options to make it easier. Other good bitmap paint programs that can be used are *Adobe PhotoShop Elements* (automatic Smart Fix works great for pictures, and color variations feature is nice), and *Corel Draw 9* (has Seamless Tile Generator).

\* With DataCAD 11.06.00 and up, you can now use Clipboard Select (or any selection method) to select only certain objects, and then run the *o2c Object Viewer*. Only those selected entities will be rendered in the window! Makes designing and tweaking only particular elements much easier. He showed for example how you can select just your reflected ceiling and have that render only to check for errors. He showed us another cheap trick for assigning a bitmap texture to a square ceiling tile (covered polyline) which is multiplied as a matrix grid and set just below another room bounding polygon. This gives the realistic effect of a recessed ceiling grid. (See Fig. above.)

\* DataCAD 11 now allows assignment of materials by layer instead of just by global color, so you can now save symbols with all material assignments intact since symbols (when exploded) preserve their layers. For quick interior modeling, he also recommended using the Z by layer feature, e.g. counters (Z = 0 to 3') are on one layer, upper cabinets (Z = 5'-0" to 7'-0") are on another layer, etc., so you don't have to worry about constantly resetting your Z heights.

\* Mark uses a lot of covered polylines in his modeling as they are much more flexible than polygons or slabs in that they are not limited to 36 vertices and you can do some nice pseudo-Boolean operations with voids. The drawback is that there is no AutoCAD equivalent to covered polylines, so they must be exploded to polygons to transfer to DWG properly.

\* Get to know the *Get Snap* feature (shift-middle button) as it is a great feature that most people don't know how to use (like a special trimming feature using existing entities.)

\* If you don't like to always deal with the DXF/DWG dialog box when importing or opening DWG/DXF files, there *is* an option to "Automatically assign default fonts and line types to all unrecognized fonts" in the *Tools/Preferences/DXF/DWG* Import menu. This will allow you to always skip the dialog.

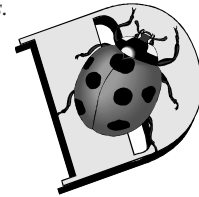
\* Regarding the common viewing center problem with o2c, the o2c engine needs and uses a light as an entity. If the light is not near the model, then the center point will be off. The fix is to turn off all the lights in Shader before opening the Object Viewer. Or if you set up all your default drawings with all the lights at or near absolute zero (and you draw your models around absolute zero), or set up so that all the lights turned *off*, then you won't have this problem — won't be a problem in a future version.

\* In *Linetypes/Overshoots* there is an option called "Globally", which is like Text Scale for Overshoots. It will cause all overshoots to be shown for all entities in real world distance (set the distance with the New Distance option). He explained how to use the value 0.020833333 which will work out to a 1" overshoot at 1/4 scale [sorry, you'll have to get Mark to explain further!] Global overshoots works for both plotted and displayed overshoots (i.e. as you change your views the overshoots automatically adjust.)

Showing a bit of another project, a major renovation of his parents' home in Michigan. He explained how, in working with Manny Snyderman, he would often send over hand drawn sketch layouts which were scanned and imported into DataCAD for incorporation into the design development documents.

Finally, Mark gave the group were a few juicy tidbits of what is on further on the horizon for DataCAD. First, a rich text entity comparable to AutoCAD's *MText* entity is under development that will give DataCAD some word processing ability to edit text layout and to create bold, italic, underline, and strike-through text. More intriguing, however, is that DataCAD is also working directly with *SketchUp* to allow *SketchUp* models to be imported directly into

Figure: Appliance fronts as bitmap tiles.



DataCAD — complete with materials and assignments intact. In other words, if you bring a *SketchUp* model into DataCAD, you will also have all those materials now added to your rendering library. Mark demonstrated this feature is an alpha version of DataCAD, employing an "Insert *SketchUp*" feature (an XREF *SketchUp* files feature is also available). Unfortunately, you will not be able to go directly the other way, but you can still use DWG or DXF to transfer back into *SketchUp*. Still, this promises to be a great way to further this natural partnership between DataCAD and *SketchUp*.

## Passage to India, Part II

Greg Barriere took us again on a journey of mind and spirit back to India to complete his fascinating presentation on Indian methods of building design and construction -- as well as on general lifestyle and culture. Greg took us on a visual tour of the major office blocks A, B, C, D, and E of the Deloitte compound in Hi-Tec City (in Hyderabad).

He showed a comparative time schedule for a 90,000 SF office building project from blank paper to finished project: in the US, it would take about 2 years (if lucky!). A comparable project in India can be finished in 155 days! In India, they have much less separation between operations — people can be moving into one section of the building, while windows are still being installed in the exterior.

In terms of construction cost for such a project, it might be \$75 per SF in the US as compared with \$26 per SF in India. If you include all project costs (design, furnishings, contingencies), the cost difference is even bigger at \$135 per SF in the US versus \$41 per SF in India.

How do they do it? They rely on an abundance of good, cheap manual labor. A lot of materials are made onsite from concrete block to installed cabinetry. Concrete is also made onsite in large part. They rely on a common building type: concrete slab construction with infill block walls and stucco finish. There are very few if any penetrations between floors, so mechanical requirements are usually handled by equipment on each floor. In general, they build first and coordinate later. It is faster and cheaper for them to chisel out floors and walls for required channels or openings than to coordinate those channels ahead of time.

All in all, another fascinating and educational night at DBUG!