



## **DBUG MEETING MINUTES**

Date: January 23, 2008

Host: Manny Snyderman, Snyderman Associates  
Milford, MA

### **OPENING**

Roughly 40 people were in attendance at the Milford High School CAD lab. Some were DBUGers, but other attendees included students of the Milford High School CAD class, politicians, and Mr. Mark Madura himself.

### **Dedication**

The meeting was dedicated to long-time DBUG member (in fact, one of DBUG's founders), Geoff Langdon, who passed away suddenly of a heart attack shortly before Christmas of 2007. Greg Barriere, another long-time DBUG member and close friend of Geoff's, played a slideshow commemorating Geoff's life. It was a wonderful tribute to a man who had given so much to so many.

### **Recognition**

Mark Madura, President and CEO of DataCAD LLC, was present to give a demonstration of the latest and greatest to be released soon for DataCAD 12. But unbeknownst to him he, along with Manny Snyderman, were presented with citations from both the Massachusetts House and Senate for their efforts to support this unique program at the Milton High School!

### **Milton High School CAD Program**

When we were here just about a year ago the program was just starting, and was still part of a grand experiment. As part of that experiment all of the DataCAD software was donated by DataCAD LLC. Now the hard work of the teachers, school administrators, and of course Manny Snyderman, has show fruit by producing a modern CAD lab whose students are well prepared for the real world of CAD, and in fact would be excellent candidates for summer internships at local offices.

Manny described the process of creating this program from scratch, with no training materials, by first asking the question, "How do you teach CAD to someone who has a zero knowledge base?" From there they went on to create their own syllabus, starting with menus, input methods,

and basic entities, them moving onto editing, layer management and snapping. Building on that they moved into floor plans (which required them to discuss building materials and dimensions; also new concepts to most students), dimensions and symbols. The final phase saw students creating as-built drawings of a house that Manny had measured. Students had to create plans, elevations and a building section complete with construction details. During the learning process the class took trips to the construction site of a single family residence, and to the Build Boston trade show. The finale of the class was to have them measure their (large!) high school building, and then to model it in 3D, mainly using covered polylines for simplicity. The students gleefully showed us there work, and the results were quite stunning (remember, most of them had that "zero knowledge base").

All of this was accomplished in a total of 119 classroom hours, with no homework (students don't all have access to computers and software at home). To avoid slowing down the whole class if a few students weren't "getting it," as Manny put it, "the A students helped the B/C students, and everyone was able to keep pace." Bravo to everyone involved!

Manny challenged his colleagues to start the same kind of program at their local schools, and then further challenged them to a "CAD Shootout," a la Geoff Langdon, with the best students from each school competing against one another. It would have been music to Geoff's ears!

### **Simulations With the Help of CAD**

Manny asked Mark Sullivan (Mark Sullivan Architects) and Susan O'Hara (O'Hara Health Care Consultants) to demonstrate their integration of CAD and complex databases (mainly a program called "Extend") to create computer simulations of the operations of health care facilities. Although Manny has provided some CAD plans to Mark created in DataCAD, Mark himself takes the floor plans and uses ArchiCAD to produce the 3D models that display the database information.

The presentation was quite detailed and not easy to put into a nutshell, but I'll try. Susan is a Registered Nurse whose consulting firm strives to bring together the RN, Architect and Simulation Engineering fields to provide computer based experimentation, dynamic assessment, and facilities integration. The goal is to see how design decisions will directly influence the operations of a health facility, such as an emergency room, surgery center, or outpatient clinic.

To do this they model the various design options as a physical floor plan in 3D, but with a very complex, underlying database with a great deal of data points to allow the input of detailed information and options. What is unique about the database is that they use the previous 1 year of the health facility's own data as much of the input.

There are also “uncertainty algorithms” added into the database to handle the “what if’s” that can never be fully foreseen. When the simulations are run they can see how adding more seats in the waiting room, changing the number of beds, changing the flow of patient movements, or any number of proposed changes, would have affected how the facility operated over that past year. With cost data entered the client can even see how the proposed changes would have affected their costs and profits.

All of this can be slowed down to human speed, so the dots and symbols representing staff and patients can be seen by the naked eye, or the simulations can be run at microprocessor speeds to see the end results in just moments.

Susan said that clients want “proof” that the proposed designs are going to work. These types of simulations go a long way toward doing so, and are much cheaper to do up front rather than building the facility and finding out later that it doesn’t work as intended. Susan also noted that as good as the software is, it is a thorough understanding and STUDY of the PROCESSES that creates good simulations. Garbage in, garbage out...

If you are interested in checking out any of the software used, you can go to [www.imaginatinc.com](http://www.imaginatinc.com).

### **o2c Interactive! Cheap Trick**

Mark gave us a look at a Cheap Trick that he uses to create animations from o2c Interactive! using the free Windows XP Movie Maker software. The software will create an animation from a numerical series of still images, so the trick is to create that series of rendered images in o2c Interactive! (**o2cI**) The demonstration went quickly, so let’s see if I can get this right:

- In **o2cI** you can use the various walkthrough and movement routines to make one move at a time.
- After each move use Ctrl+A, Enter to save each view.
- Now use **o2cI**'s batch rendering to render each saved view.
- It is suggested to do this without raytracing, first, to make sure you like what you have before you spend a lot of time raytracing.
- Use a resolution of something like 640x480. Higher resolutions take a lot more time to create, but don’t look appreciably better.
- Now in Movie Maker go to Tools, Options, Advanced. Set “Picture Duration” and “Transition Time” to their lowest settings (0.125 & 0.25 respectively).
- Select all the saved **o2cI** images and drop them into the Timeframe.
- Select File, Save Movie File.
- Pick a size for the resulting movie. Again, for this first pass pick something of low resolution/size.

- Once you like what you have, go back to **o2cI** and use batch rendering with raytracing ON to save all the images.
- Go back to Movie Maker and run the same steps that you did before.

### **DataCAD 12**

Mark showed us some of the new features coming up (it’s since been released) in release of 12.05. From the list released with the software, here is some of what is there (the full list is too long, so here are some of the highlights):

01. A new shortcut, [Shift] + Double-click, has been added to open XREFs directly.
02. PText is now recognized by the Change, Text, Match command.
05. A new option, Show Zero, has been added to the Grids menu. If toggled on, the drawing cursor will display an arrow indicating the direction of zero degrees.
06. The Polyline, Void menu has been enhanced to allow the creation of "new" voids in addition to selecting existing polylines.
07. The Polyline, Edit routine has been enhanced to support voids.
08. It is now possible to display either icons only or icons with text in the Layer Manager.
09. A new key, Do Not Rotate Dimension Text, has been added to the [General] section of DCADWIN.INI. If TRUE, DataCAD will automatically place dimensions that do not fit above the witness lines rather than rotate them to fit.
12. In the Status Panel, locked layers now show as bold, italic, and red.
13. Smart Walls can now be selected for Angle, Match (and implied match).
14. Added pitch, slope, and grade to Identify and [Ctrl] + Right-click, Identify context menu.
15. The o2c Viewer now remembers its last view and lights on/off settings on a per-drawing basis.
17. Undo now functions while you place symbols and allows you to undo each instance one at a time instead of all at once.
18. When the cursor is rotated via Grid Angle or Tangents, Quadrant snapping is rotated accordingly.

### **New BETA Features in version 12.05.00:**

01. Added export to SketchUp (SKP) format. Select File, Export, SketchUp.
02. Pak-N-Go:  
Use this option to archive the current drawing and related files into a single compressed file (XREFs, bitmaps, fonts, pen tables, materials).

You can find the update here:

[http://www.datacad.com/update/downloads/datacad\\_12/dacac12.05.00.exe](http://www.datacad.com/update/downloads/datacad_12/dacac12.05.00.exe)

### **Conclusion**

The meeting broke up just after 9:30.