

DataCAD Boston Users Group

120 Trenton St., Melrose, MA 02176-3714 (781)662-0020 Tel. & Fax eshu@world.std.com

<http://world.std.com/~eshu/dbug.htm>

A Committee of the Boston Society of Architects

DBUG Meeting Notes
March 21, 2006
Host: Evan H. Shu, FAIA
at the Boston Society of Architects

14 DBUGers attended the March meeting at the BSA Building and, as usual, were witness to a very full program of good information. After host Evan Shu led introductions, he announced that the April DBUG meeting to be hosted by Mark Madura and DATA CAD LLC would be sited at the BSA building on April 20th.

Basic Lesson: Hatch Principles & Review of *HatchKit*

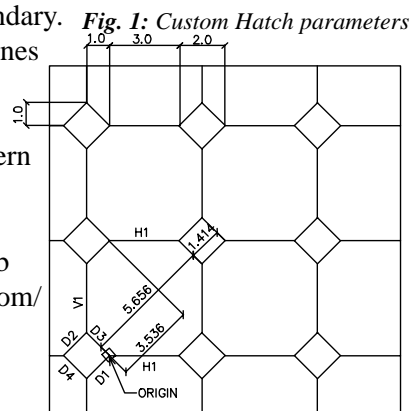
Evan started the lessons off by quickly reviewing the basic hatching principles in DataCAD: a) hatching is a very efficient process for the CAD program, because it works from a concise formula for a repeating pattern; b) the limits of the hatching area are defined by an outside perimeter boundary, a polyline for associative hatching or, for non-associative hatching, just a boundary in which the CAD program generates the hatch line by line and stores each individual entity of the hatching pattern separately (creating big file sizes); c) in creating the definition for a hatch, one specifies the design of a repeating cell; and d) DataCAD 8-10 put all its hatch patterns into a single file (DCADWIN.PAT) but, in DataCAD 11, each pattern is separated out into its own individual DHP file (*see handout on DBUG webpage*). Either type of file can be created or edited with any plain text file. The basic principles of the code remained the same with either format.

He then reviewed the different parameters of a hatch code. Each individual repeating vector must be separated as a line of code, which is simply plain text, separated by commas for each field. As an example, he showed how the *New Tile* pattern is made up of 6 different vectors, which is unique based on its direction, offset from the origin, and repeat pattern.

He described how to visualize each vector line as sort of a two way bazooka that fires a line pattern at a specific angle in both directions. If you look at each line of code, the first column "W" defines line weight which is always zero in DataCAD, because DataCAD controls line weight elsewhere. This column of code is used by AutoCAD programs. The same goes for column "C" which stands for

color but is always zero in DataCAD. The third column stands for the angle that your bazooka vector shoots in. The next two columns (*Xo* & *Yo*) define the distance from the origin. The next two columns (*Dx* & *Dy*) define the distance to the next repeat in X and Y terms — BUT, it is important to note that this distance is defined as if any angle has been rotated back to 0. The next column entries (up to a maximum of six) can be described as pen down (positive numbers) and pen up (negative numbers). Line H1 draws a line, 3 units long, then no line for 2 units, then repeats until it hits the defined hatch boundary.

Once you define all your lines of code, you save the file and if all goes right, it becomes an available pattern in DataCAD. (For more detail, please download handouts from DBUG web page at <http://world.std.com/~eshu/dbug.htm>).

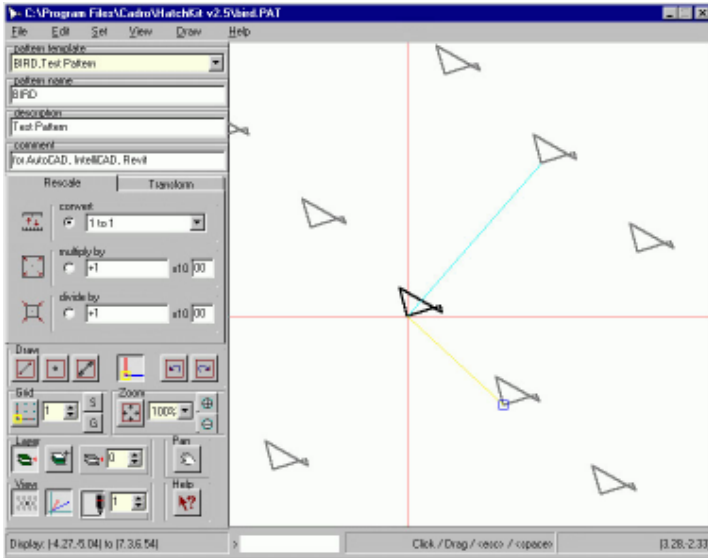


	*New Tile										
	W	C	A	Xo	Yo	Dx	Dy	S1	S2	S3 to S6	
H1	0,	0,	0,	0,	0,	0,	5,	3,	-2		
V1	0,	0,	90,	-1,	1,	0,	5,	3,	-2		
D1	0,	0,	45,	0,	0,	3.536,	3.536,	-5.656,	1.414		
D2	0,	0,	45,	-1,	1,	3.536,	3.536,	-5.656,	1.414		
D3	0,	0,	135,	0,	0,	3.536,	3.536,	1.414,	-5.656		
D4	0,	0,	135,	0,	0,	3.536,	3.536,	1.414,	-5.656		

All this description was a preamble to reviewing *HatchKit* 2.5. The long, hard way might take about 4 hours of intense work to define. That same pattern took us less than 30 seconds to create in a third party program called *HatchKit*. This excellent program gives you standalone basic CAD drawing interface. Whenever you draw a line, it immediately shows you the impact of the repeating cell. Draw a small odd shaped triangle and you immediately have the beginnings of a concrete stipple pattern. Add lines (or infinite lines) or dots anywhere you want, and the pattern becomes more complex. It has undo/redo buttons.

In the center "cell" of your screen, you will see a blue (horizontal) axis and a red (vertical) axis. Click on the *Arrange Pattern* button (red/blue L), and you can then drag

Fig. 2: Screen Shot of HatchKit



clipboard, will import DataCAD PAT files, allow import of polylines via DXF, and will provide mouse wheel zooming.

The price for *HatchKit* is USD\$85.00, which may seem a little expensive — unless of course, you can immediately think of several hatch patterns that you need that are not to be found anywhere else. You can download a demonstration version of *HatchKit* at <www.cadro.com.au/hatchkit>. The demo version gives you use of all the features, but when you save the pattern, it adds a radial pattern logo on your hatch (not easily removed) and drops out a crucial line or two. All in all, Evan recommended *HatchKit* as a terrific tool for making custom hatches.

the direction of either axis to relocate your x and y repeat. Another very useful set of tools resides under the *Transform* tab, which allows you to resize, skew, rotate or move the pattern you are creating.

Evan showed how to create the same New Tile pattern as previously, by setting a snap at 5 points per grid, and turning the grid points on. He then snapped his way around the perimeter to draw a chamfered square. As soon he hit the spacebar to end the rubber-band type line, our New Tile pattern was immediately created and ready for saving into DataCAD 11 format.

Another excellent feature is the ability to create layers — not in the saved pattern, but to help you create the pattern in the first place. Sometimes, it is easier to define and select certain vector groupings, if you don't have to worry about an intersecting set of lines. In *HatchKit*, you can put each set of lines on its own layer for editing.

Evan also showed *HatchKit*'s ability to import existing hatch patterns, or any DXF or PLT files as well. He imported a PLT roofing diagram that created an complex diagramming pattern (perhaps for a new tie?) that shows how flexible this program can be.

The program works not only for DataCAD but also for just about any CAD program: *AutoCAD*, *Chief Architect*, *Microstation*, *TurboCAD*, *IntelliCAD*, *Revit*, *VersaCAD* and many others. Some additional nice features are available in the upcoming new *HatchKit* version 2.6, due out later this spring. It will also be able to copy and paste to the

Intermediate Lesson: Beyond Compare 2 by Scooter Software. Next Greg Barriere demonstrated a software utility that he has found invaluable. Basically, it compares any two file directories, which might be located in any two locations. He finds it extremely helpful in comparing job directories, where he might not be entirely sure which files might be more current. You can use the “Compare Wizard” to help you configure a comparison or you can set it up manually.

Beyond Compare 2 shows both directories side by side in an Explorer window type of interface. It compares files using time, file size and other attributes and color codes them. Files in black are both the same in both directories. Files in blue are in one directory and not in another (orphans). Files in red or gray are in both directories but are different, with the red one being newer and the gray one being older.

From this point, you can choose to update (or synchronize) files from left to right (in the files window), or right to left, or a custom sync where it just updates the files you select in the “direction” you select.

Greg said that he uses this utility a lot as a precursor to full backup. He likens it to “removing deadwood” in that you

Fig. 3: Screen Shot of Beyond Compare 2

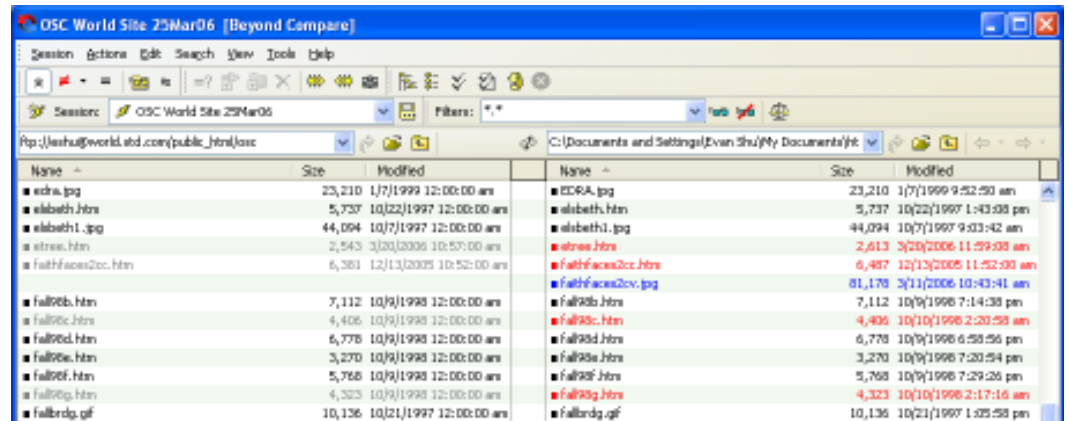




Fig. 4: Home Page of AEC CAD Exchange.

company, upload/download rules will apply to the company, and not to each individual in the firm.

The information that will be required for each “detail” upload are as follows:

- 1) a single ZIP file which contains at least the following:
 - a. A DXF or DWG drawing file (within the same ZIP file, other CAD program formats are welcome in addition, but a DXF or DWG is a required as a minimum).
 - b. If appropriate, a TXT or DOC text file (in English if possible) describing any relevant information about the detail that you deem appropriate. This might include specific products, or things to watch out for.
- 2) a preview JPG Image;
- 3) a selection of “best” CSI Section(s) for cataloguing;
- 4) Detail Title; and
- 5) Text Description of detail.

can easily see what is new and old, what can be deleted, and what needs to be saved and backed up. He sees great utility where you need to store the same files in a number of different places (e.g. for clients or for consultants) but need to make sure they are properly updated in each location. It works not only on your own network but can go out to ftp sites, so another excellent use would be for a web designer to compare backup folders with the website ftp.

The companion forum would operate much like the DataCAD forum bulletin board with very similar software. The hope is that people will comment (constructively) on the details that have been posted or discuss how various detail options might be handled. The site is still undergoing a lot of development and Mike welcomes any constructive advice you might have on how it might work better. He hopes to have the site officially ready for business later in the spring. At this point in time, he has two potential advertisers: *DATA CAD* and . . . yes, *Spirit!*

If you have a specific use in mind, you can download the software free for 30 days from <www.scootersoftware.com>. After that it is \$30, money well spent, for an excellent utility highly recommended by Greg.

Advanced Lesson: the AEC CAD Exchange. Next, Mike Smith gave us a current look at his new startup: the AEC CAD Exchange, an intriguing site designed for architects to trade construction details. Since there is no Internet access at the BSA, Mike created a *SnagIt* animated video of a tour around the new website:

<www.aeccadexchange.com>.

He states that the purpose of the site is to basically “replace” *Graphic Standards* by:

1. Facilitating the free exchange of peer to peer construction industry details, specifications and information via the Internet. (e.g. appropriate details, not manufacturer’s canned details.)
2. Providing free online forum for AEC professionals to openly discuss industry details and concerns.

The way it would work is that guest users so they can browse the site, but they won’t be able to download or upload until they actually register and create a login. “Get CAD Details,” is the meat and potatoes of the site.

- a) Registered users will be required to upload ONE (1) DETAIL EVERY 60 DAYS to remain ACTIVE members. This will ensure that the site remains fresh and relevant.
- b) Registered users are limited to downloading a maximum of 10 details for every 1 detail that they upload.
- c) Registration: Registration is FREE by individual or by

Lessons in Web Advertising. This venture has taught Mike some basic lessons in how advertising works on the Internet. Much of the ad revenue paid is based on “ad impressions,” basically counting how often an ad is displayed on a website for a visitor and/or how often it is clicked on. He recommended the following links to learn more about this complex subject:

How Web Advertising Works:

<http://computer.howstuffworks.com/web-advertising.htm/printable>

Understanding Web Advertising: An Overview of Principles, Techniques, and Methods:

http://www.ischool.utexas.edu/~i385ef04/studentsPPT/HTML/zavaleta_i/Webads.html

Internet Marketing for Dummies!:

<http://searchwarp.com/swal601.htm>

Google Ad Sense: <www.google.com/services/adsense_tour/>

With that topic finished, this DBUG meeting wrapped up at about 9:30 p.m. — another long but full night of great information. — *Meeting Notes by Evan H. Shu, FAIA*