

DataCAD Boston Users Group

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A Committee of the Boston Society of Architects

About 20 DBUGers gathered at the scenic office of GSD Associates in North Andover. Despite its proximity to the mill ponds feeding into the Merrimack River, the GSD offices amazingly suffered no water damage during the recent heavy rains and flooding in this area. They have been in this location since 1998 (the office was started in 1989). Host Greg Smith and staff welcomed everyone and served up their usual fine barbecue for a pregame meal.

After introductions, various announcements were made. Evan Shu said that the June DBUG meeting would be at the BSA building on June 22nd. Neil Blanchard said that there was a new free macro, *PSymColors*, now available from the DataCAD website (DDN section) that will allow you to change colors within a symbol without needing to explode it first. Anson Courtright has started a new architectural practice. Michael Smith passed around some high-end renderings done by a rendering service and Eric Gjerde recommended *Pechara Studios* <www.pechara.com> as another good online rendering service. Greg Smith said that they were looking to hire a new registered architect for the firm.

3D Model: DataCAD to Artlantis

To begin the presentations, Andrew Beyea showed a project where they were asked for ideas to break up the monotony of a very long access corridor using architectural elements and interior design. He showed how he built the model in DataCAD. After XREFing the base architectural plan into a new file, he built up the corridor using 3D slabs, along with doorways and 3D doors, and polygons for murals and other 3D entities for light fixtures. Bearing in mind that each different material would be assigned in *Artlantis* by color only, materials were not only separated by layers in DataCAD but also given a unique color using the 256 color palette. Care needed to be taken as *Artlantis* would not differentiate between near-colors in the palette and assign them both the same material.

A quick o2c rendering in DataCAD served as a check to see that the elements were all properly separated. If you develop a practice of assigning the same colors to the same materials in DataCAD, that color chart will stay

enabled the next time you do a rendering. In this case, no care was taken to assign materials because they would be done more easily in *Artlantis*. The DataCAD drawing file was exported to DWG format.

Now in *Artlantis 4.5* (about \$500), the DWG file was opened. First, fixed camera positions were defined, then lighting was configured by setting up point lights, daylighting, and directional lighting. There is no "strip" light, so the fluorescent channel uplighting was defined by a series of point lights. Next, from a material library, materials choices (wood, metal, fabric, etc.) were dragged and dropped on to the intended surface and would immediately appear. Note that these material textures were procedural textures (created via algorithm rather than texture map). Conventional texture map bitmaps could also be used as demonstrated by the photo they used to create a wall mural. Another advantage of this method is that you can make subsequent changes in the DWG file to edit the model and then reload this file into *Artlantis* and all the rendering configurations will remain intact.

Once the model is suitably rendered, an animation path is created, which is like defining the path of a moving video camera. This path can include spinning around or turning the camera up or down at any point. They used a rendering configuration of 25 frames per second and created a 42 second long fully-rendered animation. The final animation took 9 hours to render and created a 450 mb file in AVI format.

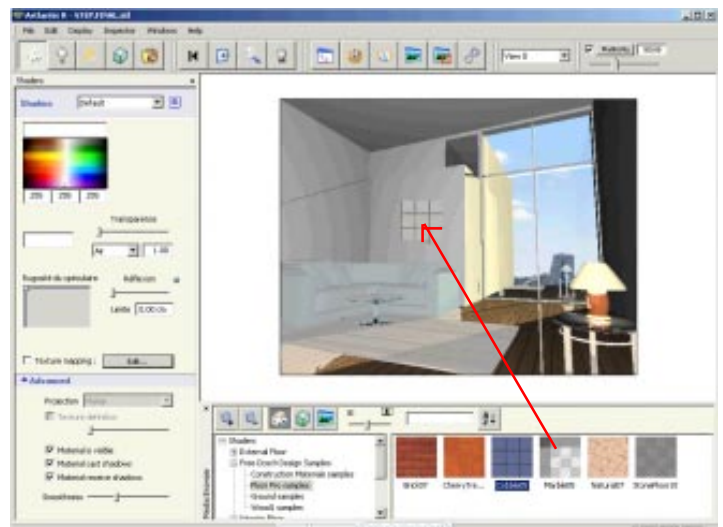
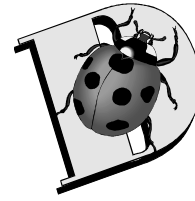


Figure 1: Artlantis features drag/drop of textures onto model.



Google Earth & SketchUp

Anthony Nganga showed how we can all now reap the free benefits of Google's recent acquisitions of both Keyhole (now *Google Earth*) and *SketchUp*, as now both programs are not only free but can also work in tandem. Here are the steps he provided in outline form.

I. Configuring Google Earth:

- a) Install Google Earth 3.0640 or higher; (from www.google.com and *More Tools*);
- b) Turn *Elevation Exaggeration* to 1 in Google Earth (*Tools > Options > View*);
- c) Turn on "terrain" in Google Earth (check box);
- d) Change your image resolution to largest available setting (*Tools > Options > View > Detail Area*) for best image capture.

II. Google Earth and SketchUp Workflow

- a) In Google Earth, navigate to the location where you want to build your new model;
- b) In SketchUp, click on the *Get Current View* button, which will grab the current site view from Google Earth and bring it immediately into SketchUp;
- c) In SketchUp create your model on top of the 2D image. (Note it is best to grab your site view first, then build the model rather than build first without site view.)
- d) In SketchUp, click on the *Toggle Terrain* button to view 3D image;

- e) In SketchUp, correct positioning of your model to conform with the terrain (or buildings) now showing in the 3D image;
- f) In SketchUp, click on *Place Model* button to send model immediately into Google Earth;
- g) In SketchUp, export the final model for use in Google Earth using the KMZ export option found in *File > Export > 3D Model*;
- h) As an optional step, in SketchUp, click on the *Share Model* button to post your model to the Google 3D Warehouse.

Anthony demonstrated these steps by first building a rough model on a site near the GSD offices. Secondly, he showed how this same process can be used to build a concept model on a site in downtown Boston (see *Figure 2 below*). Everyone was suitably impressed with how easy this process has now become. This demonstration was done with the free versions of both SketchUp and Google Earth. The paid version of SketchUp will allow you to import and export DWG files as well as some other advanced tools. The paid version of Google earth gives you additional drawing tools and allows you to export hi-resolution images.

-- Meeting Notes by Evan H. Shu, FAIA

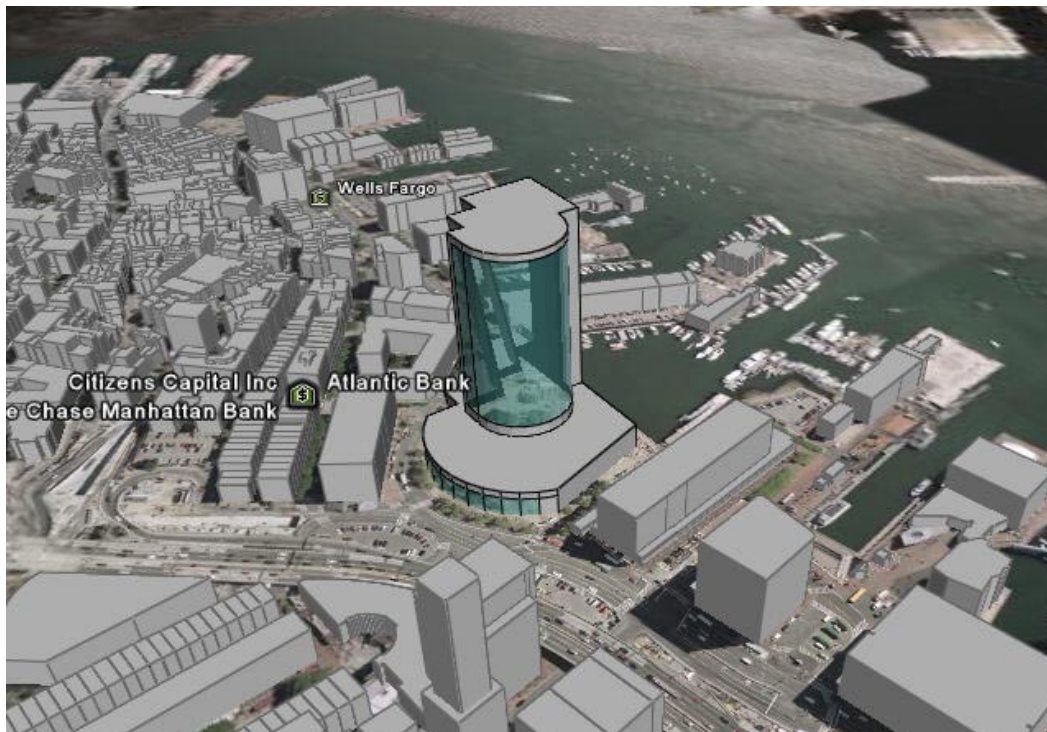


Figure 2: GSD's skyscraper concept model in place on Boston's waterfront thanks to Google Earth and SketchUp.