ArchT

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AutoCAD, in and of itself, is not an easy tool for architects to use. It forces them into a world of line segments and arcs when architects want to be thinking about spaces, walls, doors and windows. Through the effective use of object-based programming and a very architect-friendly interface, ArchT succeeds in helping architects work naturally with AutoCAD.

Installation

Installing ArchT is very simple, just choose whether to accept the default directory structure and the extent of your install, ranging from full to compact (the differences depend on whether you want to load sample blocks, tutorial files or online help on your hard disk). You also choose if you want ArchT to load automatically at the start of your AutoCAD session and whether you want to use ArchT's command aliases and hatch patterns by default. The typical installation uses approximately 100MB of hard disk space.

An ArchT Session

When you open a DWG file in AutoCAD R14 after installing ArchT, you encounter a "splash screen" that lets you know that ArchT is being automatically loaded. (This screen does not appear in the R13 version.) You will notice that ArchT has very little impact on the standard AutoCAD inter-

face. Three new pull-down menus are added to the end of the standard pull-downs and one long toolbar (33 boxes) is docked under the standard AutoCAD toolbars.

ArchT's menu organization is based on the two primary functions in the practice of architecture: design and documentation. The Design menu contains commands needed to build the building or building model, and the

Figure 1. ArchT's Design pull-down with Add Doors selected.

Document menu contains commands to aid in explaining the design of the building using symbols, words and numbers. The Utility menu contains useful drafting cleanup functions.

Design Menu

Under the Design menu, as shown in Figure 1, we find aids for automating the design of individual building components, such as a selection for walls and doors to help in their creation. Other building-component design aids include windows, stairs, roofs and ceiling grids. Each menu selection under the design pull-down provides a concise, consistent set of tools for manipulating the design components. These tools include: Add—to place a new component; Modify—to change a component that already exists; Remove—to erase components; and Update—to rebuild a component based on a change to style or design parameters.

The remaining typical tools include Predefined, which works like Add except it bypasses much of the Add dialog-box input by using a list of components that already have pre-specified properties. There is also Styles, for creating and modifying styles. Styles contain the design parameter— or object-information necessary to define each type of building component or assembly. For example, the style for door type **A** could contain any
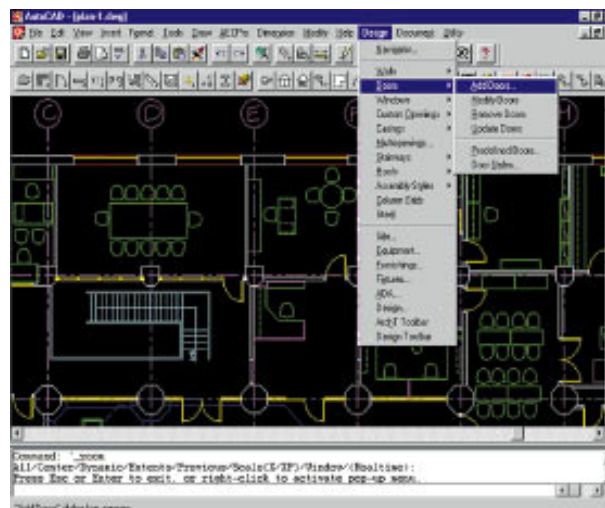
information you want to capture about that generic door type, such as its size, material, fire rating, hardware, head and jamb detail. If you change a style parameter that impacts the graphic representation of an object, the drawing will change to reflect the change to the style. Styles can be further developed and refined throughout the design process so you only have to place (draw) a component once. After inserting a door, for example, you can change it by modifying its style parameters.

In addition to the standard tools mentioned, each menu item under Design also contains unique tools needed for modifying that specific building-component type. For example, Break and Glue are tools found under the Walls selection. These tools are necessary for modifying walls.

Navigator

Also included within the Design menu is a powerful feature called Navigator for browsing and inserting the 4,700 plan, elevation and 3D blocks included in the program. Primarily a block manager, Navigator also provides a third interface for evoking ArchT commands. Navigator uses an index file to control choices. You are provided with an index file called Standard when you first install ArchT. The index organizes AutoCAD blocks or commands into Divisions. When you select one of the CSI divisions, you see the groups within that division. Clicking on the group brings up a dialog box with images of the first 16 blocks associated with that group, as shown in Figure 2. Just double click on the block you want to insert in your drawing.

Blocks are further sorted by type of views available, such as plan views, elevation views and quick, or detailed, 3D views. Also within Navigator, you can set the mode for each of the

division selections. Mode pickbox choices include: Insert, Data and Magnify. Insert mode invokes the command or inserts the block chosen. Data mode will bring up a data screen for the block you've selected, displaying all views of the object along with the information that Navigator stores for each block, block name and location, group name, macro used to insert the block, layer information, 2D to 3D swap information, off-the-floor offset height and record data for interfacing with internal databases. Magnify mode lets you have a larger view of the slide associated with the dialog box you've selected. You can create your own Navigator index with commands found under the Utilities menu.

Within the standard index, at the top of the division list above the CSI divisions, is an item labeled Commands. If you select Commands, the groups are the three standard command categories: design, document and utility. Once you choose the group, a dialog box appears containing descriptive images representing the commands to be invoked versus the blocks to be inserted, as with the CSI divisions. You can run your entire ArchT session from within Navigator mode using the Commands Division, as shown in Figure 3. For experienced

Figure 2. A typical Navigator dialog box with the Site Division and Cars Group selected.

ArchT users, Navigator mode is probably best used solely as a block manager because toolbars and pull-down menus require fewer steps.

Document Menu

The Document menu contains commands for aiding in dimensioning, inserting architectural notation symbols, labeling and generating reports and schedules. Schedules are automatically generated based on block counts and the extraction of Style information. Changes to schedules are not automatic. If you change the style for an object reported on in the schedule, you simply run UPDATE and select the schedule in the drawing for the change to be reflected in the report. There are preexisting report formats to choose from, or you can easily customize your own. Reports take the form of spreadsheets or schedules on drawings.

Utility Menu

The Utility menu contains features that are useful, whether or not you're an architect. One feature is clone object, which allows you to create a new object by selecting an existing one to duplicate. This feature appears to work like the COPY command when you select blocks to clone, but for entities such as lines, it sets the properties for the line you selected and initiates the LINE command for the creation of the new line.

Other features include converting 2D-to 3D-based on Style information. The parallel-line clean-up feature is useful when working on existing drawings that used parallel lines for wall generation.

The Utility menu also includes a layer manager. Aside from some typical utilities for managing and manipulating layers, you can make use of one of 10 predefined autolayer settings. There are autolayer
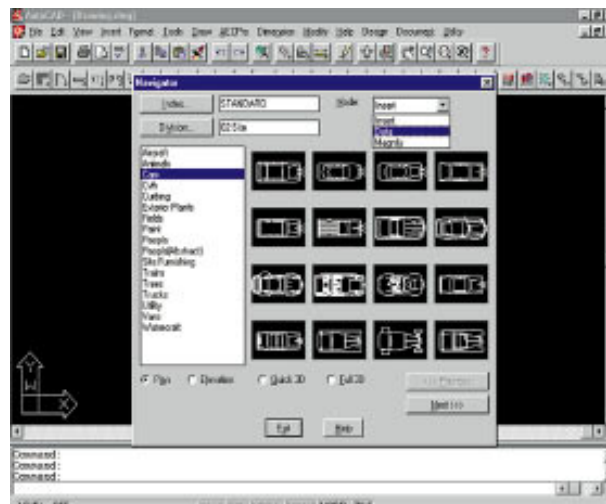
settings corresponding to the AIA standard layer lists—both long and short versions—the AEC standards, UK standards, ArchT's standards, and you can create your own custom layer standard within autolayer. Layer Styles provide the ability to save and recall specific layer settings. The Utility menu also contains a variety of tools that are faster and easier replacements for standard AutoCAD commands.

Summary

ArchT is an excellent add-on. It's unobtrusive, it's very simple to use, and its organization is sympathetic to the way architects work. Beginning with design, you create simple building components and add detail as the building project develops using Styles. There is no need to redraw items as they change. ArchT provides great tools for documenting and on the building's design, and it'reporting s packed with utilities that would be useful for any AutoCAD user. ArchT enables architects to focus more on the development of architectural designs and less on
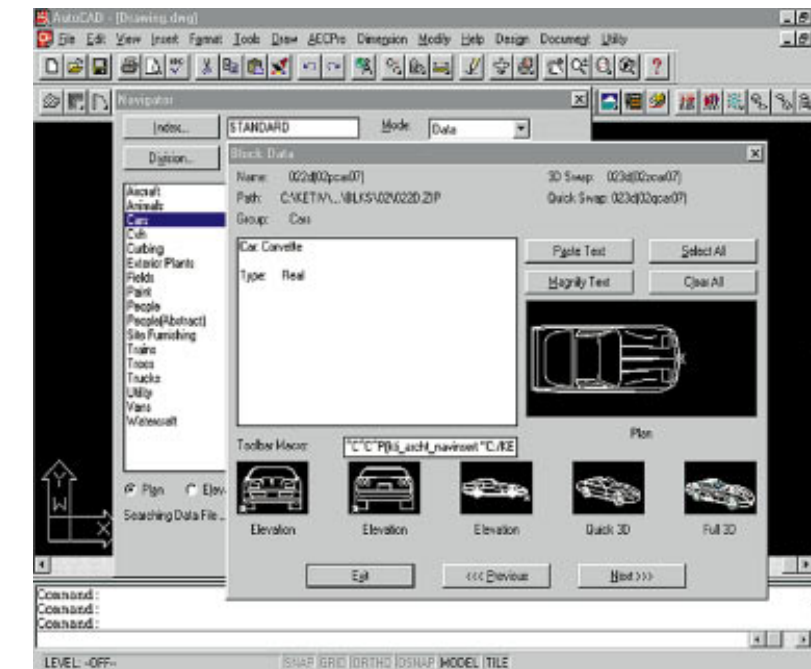

Figure 3. Using the Commands Group in Navigator, you can invoke all ArchT commands.

devising workarounds to accomplish their objectives.

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