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Virtus WalkThrough Pro 2.0

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For Help on Help, Press F1

Overview

What is Virtus WalkThrough Pro 2.0?

What's New in WalkThrough Pro 2.0?

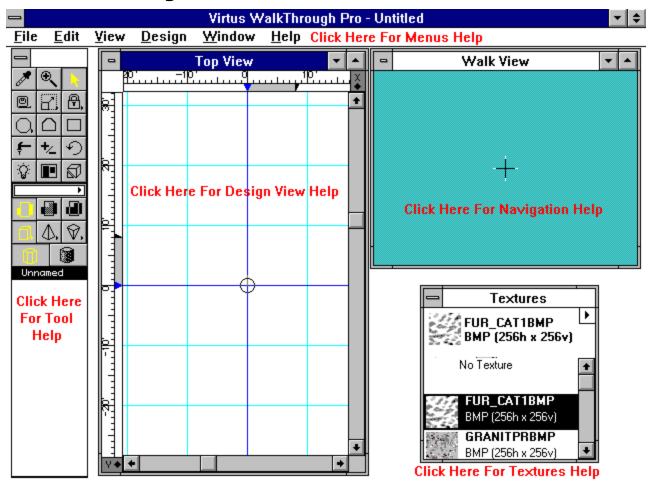
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Textures

The Textures Window

The Textures window can be displayed or hidden with the Textures Window command under the Windows menu. The Textures window is used to choose textures and apply them to selected objects and object surfaces, and to alter the display characteristics of textures.

Within the Textures window is the Texture menu. This menu has many commands and options specific to working with textures. The Textures Menu is accessed by mousing down on the arrowhead in the upper right corner of the Textures window.

Textures that have been added to the Textures window with the Add Textures command are displayed in the Textures window as a thumbnail (a small preview picture), along with the name of the texture.

Textures in the Textures Window can be selected to be edited or applied by clicking on the name or thumbnail of the texture. Once selected, the texture name and its thumbnail are highlighted. The texture remains highlighted until another texture is selected.

If a texture is applied to any object or surface, a checkmark appears beside the name of the texture, indicating the texture is in use.

You can change the order of the textures listed in the Textures window by mousing down on a texture and dragging it up or down the list.

Applying Textures

Textures can be applied to an entire object, to individual surfaces or as surface features.

Textures can be applied while in any Design View, the Tumble Editor or the Surface Editor. Once a texture is applied, its display attributes can be altered with the Texture Options dialog under the Textures Menu.

When applying textures, you must pay close attention to the Placement Modifiers. Textures, like colors and surface features, can be applied on the inside, the outside or on both sides of an object, depending on the choice of Placement Modifiers.

The WalkThrough Interface

Virtus Player Application

Included with WalkThrough Pro 2.0 for all platforms is the Virtus Player application. Virtus Player is an application that will open any Virtus model for viewing but not editing. It allows you to distribute your models freely and across platforms. Using the appropriate version of Player, users now have the ability to share their models with anyone with a 386 or higher PC running Windows, or a color Macintosh running system 6.0.4 or higher. This application can be distributed without charge to others (provided you follow the license agreement contained in the Player Read Me file).

Cross Platform File Compatibility and Virtus Player

Models and Libraries created with Virtus WalkThrough Pro 2.0 are readable on Windows, Macintosh and Power Macintosh computer platforms. Therefore, a model created on a PC running Windows 3.1 using WalkThrough Pro 2.0 for Windows can be opened and edited on a Macintosh running WalkThrough Pro 2.0 for Macintosh, and vice versa.

We've included the Player application in Macintosh, PowerMacintosh, and Windows 3.1 versions with VWT Pro 2.0. The Windows version of Player is installed on your computer when you install VWT Pro 2.0. Some sample Player models are also included. The Macintosh and Power Macintosh versions of Player are included on a separate Macintosh disk.

Few Windows users have software that will read a Macintosh disk. Most (not all) Macintosh users can read High Density DOS formatted disks. The best software for this is called PC Exchange and is available from Apple Computer. Today all Macintoshes come with this software pre-installed. Users of PC Exchange can read, write, and format both Macintosh and DOS HD disks without doing anything special. The only requirement is that they have a HD Disk Drive and the PC Exchange software installed.

To send your Windows file to a Macintosh user who can read DOS disks, send them a high density DOS formatted floppy disk with your file on it and either the Macintosh or PowerMacintosh version of Player (or both).

Windows users who want to copy the Macintosh Player Program disk must use a disk duplicating program like DiskDupe which can read and write disk images. You cannot use the DOS or Windows diskcopy commands to copy a Macintosh formatted disk.

To move large files (over 1.4 megabytes) bewteen Macintosh and Windows computers you must have special utility software (contact your favorite software vendor) or use a direct connection. If both Macintosh and Windows computers share the same network the solution is simple. If a network is not available you can use modems and telecommunications software to move large files.

To send models to others for viewing only (thus providing no ability to edit with any Virtus software package) use the File Export Player command in Virtus WalkThrough Pro 2.0. Please see the User Reference for further details.

To send models to others for viewing and editing, save the file as a Pro file and follow the appropriate instructions above. Other users of WalkThrough Pro will be able to open and edit the file.

Glossary

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Other Virtus Products

Click on one of the following to display information about other Virtus products:

Virtus VR

Virtus Alien Skin

Virtus Galleries

Active Window

The window that you are currently working in. A window is active if its Title Bar is highlighted.

Alley

The area on a ruler where the Depth Control is displayed.



Ambient Light

A surrounding light source that casts its light on all surfaces of the object that you are editing and on all surfaces of any objects contained within the object you are editing.

Aspect Ratio

The ratio of horizontal to vertical dimensions of the Walk View.

Collision Detection

Collision Detection is the feature that prevents you from walking through walls and other solid objects.

Color Selector

A spectrum of colors that can be assigned to objects or surface features.

Coordinates Window

The Coordinates Window displays object and cursor positions/measurements within the Design View.

Cross Hair

Located in the middle of the Walk View and used as a reference point for navigation.

Custom Screen

A custom Screen is a window that is displayed when a WalkThrough Pro file opens. The User may personalize this screen with a picture (in BMP format) and text.

Depth Controls

Appears on each ruler in the Design Views and on the ruler in the Depth Window. It determines the inflation distance and the position of objects.

Depth Window

Contains a ruler and Depth Control that allow you to manipulate inflation distance and position of objects.

Design View

A two-dimensional area where you draw objects. There are six possible Design Views: Front, Back, Top, Bottom, Left and Right.

Directional Lighting

Directional Lighting is a light source that can be directed toward one area.

Dock

A gray box that appears on the end of each ruler. The Dock displays the letter, X, Y or Z, which determines the axis the ruler is on. Docks also contain Non-Reproducing Guidelines, which you can drag to any position on the ruler.

Drawing Tools

Allow you to draw 2-D polygonal outlines of basic shapes that are interpreted as 3-D objects or 2-D surface features.

Embedded Textures

Embedded Textures are stored in a WalkThrough Pro model when the file is saved. The alternative is to link them.

Full Screen

This command opens the Walk View to cover the entire monitor screen, including the menu bar.

Group

This command groups all selected objects, treating them as a single object.

Handle

A small square block which represents the meeting of two or more planes, or in the case of an object, the meeting of two sides. If an object is selected, its handles are visible.

Home

A 3-D location in the Virtus world used as a base or reference for the Observer or for a Design View.

Inflation

The process of taking a 2-D polygonal outline and adding depth to create a 3-D object.

Inflation Distance

The depth or the distance that a 2-D polygonal outline is stretched to create a 3-D object.

Inflation Modifier

Determines the inflation type, or 3-D shape, of an object. Inflation is the process of interpreting a 2-D polygonal outline in the Design Views as a 3-D object in the Walk View.

Lens Focal Length Tool

Determines the zoom factor of the virtual camera. The Lens Focal Length Tool can be adjusted to give the effect of viewing the Walk View through a wide angle lens or a telephoto lens.

Levels

The number of decrementing sides of an object whose inflation type is rounded or double-rounded. The maximum number of levels allowed is 16.

Library Item

Can be a single Virtus WalkThrough Pro object, but is usually several objects grouped together to form a complex shape, such as a piece of furniture. Library Items are stored in a Virtus WalkThrough Pro Library.

Library

A collection of Virtus WalkThrough Pro objects (Library Items) that can be copied and pasted into multiple models.

Lighting Editor Tool

The Lighting Editor Tool accesses the Lighting Editor from the Design View or the Tumble Editor. The Lighting Editor allows you to set the intensity and color of light sources inside a selected object or for the Virtus World.

Magnify Tool

The Magnify Tool increases the apparent size of the Design View drawing by factor of two, every time you click.

Navigation

The process of moving through the Walk View.

Non-Reproducing Guidelines

These help align objects. Non-Reproducing Guidelines are dragged out of the Dock and positioned anywhere on the ruler.

Observer

Represents your eyes in the virtual environment. In a Design View, the Observer is shown as a circle with a line that indicates the viewing direction.

Opacity Modifiers

Determine whether an entire object or a selected surface is opaque, translucent or transparent.

Opaque

Describes a selected object or surface feature that appears solid (you cannot see through it), even though it is volumetric.

Orientation Cube

Shows the orientation of the Virtus World as seen by the Observer in the Walk View. In the Tumble Editor, the Orientation Cube represents the selected object within the Virtus World and shows the side(s) of the object visible in the tumble window.

Placement Modifiers

Determine which side of a surface will be edited.

Preferences

The dialog that allows you to set preferences for the appearance of the Design and Walk Views, navigation, measurement units and other application and model attributes. You can customize your application with the Preferences dialog.

Rendering

Translation of 2-D objects in the Design View to 3-D objects in the Walk View.

Rotation Constraint Tools

These affect how the selected object or light source can be rotated.

Selection Rectangle Method

A means to select objects by dragging the Select Object Tool to form a bounding box around the objects that you wish to select.

Slice List

Displays the word slice and a number for each slice that you make in an object while in the Tumble Editor. If you wish to edit a slice, click on the slice number of the slice and it will appear in the Tumble window.

Slice Tool

Adds a surface to an object by slicing off a piece of that object in the Tumble Editor.

Smooth Shading

Smooth Shading is a rendering type that softens edges, giving a smoother and more realistic appearence to curved surfaces.

Snapshot

This command allows you to save a Design View or Walk View perspective in BMP, TIFF and Adobe Illustrator formats.

Subject Cube

The Subject Cube appears within the Lighting Editor window and represents objects contained within the object that you are editing. It also shows how light affects those objects.

Surface Editor

Accesses the Surface Editor from the Design Views or the Tumble Editor. The Surface Editor allows you to edit a selected object surface.

Surface Feature

A polygonal 2-D object that can represent items such as a door, window, or a floor or wall feature with a specified opacity and color on a surface. Surface Features are created and edited in the Surface Editor with the same tools as objects; however, Surface Features do not have depth.

Texture Mapping

Texture Mapping is the process of applying textures to surfaces.

3-D Object Selector

The 3-D Object Selector is the tool used to select an object in the walk view.

3-D Surface Selector

The 3-D Surface Selector is the tool used to select surfaces in the Walk View.

Translucent

Means that a selected object or surface feature is see-through, like glass.

Transparent

Means a selected object or surface feature is invisible except for a wire frame.

Tumble Editor Tool

Accesses the Tumble Editor from the Design Views. The Tumble Editor allows you to three-dimensionally rotate an object, edit a selected surface or slice off a piece of an object.

Velocity Grid

This is made up of the horizontal and vertical marks in the Walk View that determine the points at which the walk speed changes when you navigate through the Virtus World.

Virtus Player

The Virtus Player is an application that enables anyone to open and view (but not edit) any Virtus file.

Virtus World

The overall area of the Walk View.

Walk View

The window that displays a three-dimensional rendering of the objects you draw in a Design View and allows you to walk through and around the objects.

Window

Displays information on the computer screen in a designated area. In Virtus WalkThrough Pro, a window can display a tool palette, a view or an editor.

Menus

Click on a menu topic to display its description:

File Menu
Edit Menu
View Menu
Design Menu
Light Menu
Surface Menu
Tumble Menu
Walk Menu
Window Menu
Help Menu

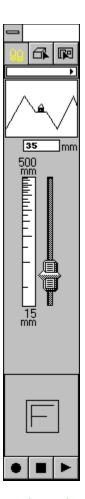
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The Tools Pad

The Tools Pad has two modes, one for the Design View and one for the Walk View.

Click on a tool to display its function (for more detailed information, refer to the manual supplied with Virtus WalkThrough Pro):





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The Design View

The Design View is a drawing area where you draw or view object outlines in two dimensions. There are six different Design Views: Top, <u>b</u>ottom, Front, Back, Left, Right. You may draw in any Design View. More than one Design View can be open at any time; however, only one view can be active at any time.

The Design Views have a specific set of tools. When a Design View is active, the Design View tools are displayed in the <u>Tools Pad</u>.

Creating an Object

In the Design Views, an object is represented by a 2-D polygonal outline. To draw the polygonal outline of an object, select a drawing tool, point to a location in the active design view, click and drag.

The resulting polygonal outline is a 2-D cross section from which a 3-D object is derived. The polygonal outline may look flat, but it has depth and a position in space. WalkThrough Pro applies an inflation distance, or depth, to the outline and inflates the object in the same direction that you are viewing; you cannot see the inflation unless you change views. To change views, select a view from the Change View submenu under the View menu.

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The Walk View

The Walk View displays a three-dimensional rendering of the objects that you draw in a Design View. In the Walk View, you can walk around and through objects by moving the mouse. Also in this view, you can select objects or object surfaces to be edited. The Walk View has a set of tools specific to the Walk View. When the Walk View is active, the Walk View Tools are displayed in the Tools Pad.

To move forward, click the mouse about two inches above the cross hair.

To move backward, click the mouse about two inches below the cross hair.

To rotate left/right, click the mouse about two inches to the left/right of the cross hair

ADVANCED NAVIGATION:

Press Crtl and		
Press Shift and To place cursor	place cursor	To
Rise Up	Above cross hair	Tilt your view up
Above cross hair Sink Down	Below cross hair	Tilt your view down
Below the cross hair	Below Closs Hall	Tilt your view down
Slide Right	Right of cross hair	Roll your view right
Right of cross hair	9 5. 5. 5.55	, o ag
Slide Left	Right of cross hair	Roll your view left
Left of cross hair	-	-

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What is Virtus WalkThrough Pro 2.0?

Virtus WalkThrough Pro is a 3-D drawing and design package that helps you conceptualize and

communicate your design ideas. Virtus WalkThrough Pro helps you conceptualize by allowing you to create environments on your desktop computer and then walk through and explore those environments interactively. The software provides immediate feedback so you can experiment with "what if" scenarios. Virtus WalkThrough Pro helps you communicate with its real-time drawing capability and by offering presentation formats like Autodesk Animator and Video for Windows, thus providing the means for producing pre-recorded movies.

Virtus WalkThrough Pro Is Not...

Virtus WalkThrough Pro is not a CAD package. Every object in Virtus WalkThrough Pro has depth; therefore, it is impossible to draw with traditional line and vector CAD constructs. When drawing in Virtus WalkThrough Pro, basic polygons are drawn two dimensionally and then inflated into 3-D objects. (A polygon is a three or more sided, closed figure bounded by straight lines.)

Virtus WalkThrough Pro is not intended to replace CAD, but to enhance it, as well as other types of applications. Virtus WalkThroughs import and export facilities make the package versatile when working in conjunction with other design and graphics applications. Two-dimensional as well as three-dimensional views can be integrated into drawing, word processing and page layout programs, as well as most CAD packages.

Volumetricity

Space Modeling and Containment

When you draw a 2-D object in the Design View, it becomes a 3-D object in the Walk View. Though the object may appear solid in the Walk View, it is actually hollow. Every object has an interior space--it is volumetric. Volumetricity has three considerations you should be aware of. The first consideration of volumetricity is space modeling, that is, you are able to use Virtus WalkThrough Pro to model space itself. Think in terms of space (with infinitely thin walls) defining the environment rather than the environment defining the space.

A second consequence of volumetricity is containment. Every object in Virtus WalkThrough

knows what objects it contains and what object contains it. Containment provides you with some

important benefits. For example, if you move a container, all objects contained within it also move.

In Virtus WalkThrough Pro, containment is an all-or-none state; an object is either fully contained

within another object or it is distinct from other objects. Objects cannot overlap (but they can be joined at a common surface). Unfortunately, it is possible to draw overlapping objects, and the program does not warn you if you make this mistake; however, the result of overlapping objects is always the same: the three-dimensional rendered objects appear twisted and grotesque and sometimes just plain funky.

If you drag a small object into a larger object, a state of containment will exist when the mouse

pointer reaches the interior of the large object. The program indicates containment by displaying

small blocks called containment markers at the vertices of the large object. These markers will

disappear when you release the mouse button. The figure at the left shows containment markers

displayed as a small object is being dragged into a large object.

The third consequence of volumetricity is that each object surface has an inside and an outside.

In Virtus WalkThrough Pro, you can edit the inside or outside of any surface of an object to create surface features. Surface features are two-dimensional shapes that can be a different color or a different opacity than the object surface. Surface features are used to represent doorways, windows, holes and other items.

Dimensions

When speaking of three-dimensional space, the coordinate system is usually displayed or discribed in X,Y and Z axes (or planes). Such is the Virtus WalkThrough Pro world. Because the Top View is the default view when the program is started, the three dimensions are based on the Top View rather than the Front View, as in some other 3-D programs.

To demonstrate this, assemble your Virtus Reference Cube (if you haven't already) which is included with the Virtus WalkThrough Pro package. Hold it up in front of your face so the T (Top View) is facing you. Notice the rulers on the top edge and left edge of the Top View. At the bottom of the left ruler is the letter Y. This indicates the left ruler is associated with the Y dimension. At the right of the top ruler is the letter X. This indicates the top ruler is associated with the X dimension. So, when viewing or drawing objects in the Top View you are viewing or drawing the XY dimensions of objects.

Now, rotate the Virtus Reference Cube so the F (Front View) is facing you. Like the Top View, you will see a ruler on the top edge and left edge of the view. But notice at the bottom of the left edge ruler is the letter Z indicating the ruler is associated with the Z dimension. The top ruler has not changed and is still associated with the X dimension. So, when viewing or drawing objects in the Front View you are viewing or drawing the X-Z dimensions of objects.

Now, rotate the Virtus Reference Cube so the R (Right View) is facing you. Notice the top ruler has changed to Y. So, when viewing or drawing objects in the Right View you are viewing or drawing the Y-Z dimensions of objects.

To put it another way:

X is the left/right dimension, Y is the front/back dimension, Z is the top/bottom dimension.

Virtus Rules of Drawing

When modeling, you would be wise to adhere to these rules....

- 1) Do not overlap objects.
- 2) Non-convex objects are not allowed.
- 3) Speed and Detail are inversely proportional.
- 4) Transparent and translucent objects and surfaces (as well as smooth shading) drain processing power.
- 5) You cannot draw a line. All objects drawn must have depth.

What's New in WalkThrough Pro 2.0?

For new users, or for those who have upgraded from a previous version, heres a brief look at whats new in Virtus WalkThrough Pro 2.0:

3-D Object Selector, 3-D Surface Selector

With these two new tools, you can select an object or an objects surface in the 3-D Walk Window. The 3-D Object Selector helps you select an object that may not be easily accessible in the Design View; the new 3-D Surface Selector works exactly like the Surface Editor Tool, except that it works in the Walk View!

Smooth Shading

This new rendering type softens edges, giving a smoother appearence to the curved surfaces of objects.

Magnify Tool

A magnifying glass replaces the Zoom-In Tool. Additionally, you may access the Zoom-Out Tool by selecting the Magnify Tool and pressing the Crtl key. You may also constrain magnification by selecting the Magnify Tool and dragging a marquee around a designated zoom area.

Virtus Player

With this new application, which is included with WalkThrough Pro 2.0, anyone can view (but not edit) any file created with Virtus WalkThrough, WalkThrough Pro or Virtus VR.

Embedded Textures

You have a choice! A WalkThrough Pro model can now be saved with all its textures stored (embedded) in the model file. Or, as in previous versions, you can merely link the textures to the file. Also, with the Save As... option, you can now save WalkThrough Pro files as Virtus VR files

Improved Printing

From within WalkThrough Pro, you can now print the 3-D Walk View of models to which textures have been applied.

Virtus VR

Virtus VR is a unique 3-D modeling program that features an intuitive drag-and-drop approach to world creation. This method of object-oriented drawing allows users to choose basic 3-D shapes, from galleries supplied with the program, to build more complex objects and structures. Retailing for just \$99, this affordable program features one cubic mile of cyberspace, construction and navigation tools, galleries of 3-D objects that can be added to any Virtus VR environment and six pre-built scenes that illustrate the program's modeling, texture mapping and real-time "walkthrough capabilities". The program is also supplemented by an on-going series of add-on galleries that greatly cut down on modeling time by providing commonly used, pre-constructed 3-D objects that bring life to virtual worlds. Virtus VR is available for Macintosh, Power Macintosh and Windows users.

To Order Virtus VR, call 1-800-847-8871 (1-800-VIRTUS1) 9:00am - 6:00pm EST

Windows System Requirements:

¥ 80386-based (or later) personal computer ¥ at least 4MB ¥ Microsoft Windows 3.1+ ¥ VGA or SuperVGA display adapter

Virtus Alien Skin

Virtus Galleries

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Virtus Alien Skin

Virtus Alien Skin generates stunning textures that tile seamlessly. Available for Windows, Alien Skin is offered as a stand-alone application or as an Adobe Photoshop plug-in. The drag-and-drop process "mates" and "mutates" original textures, creating an infinite variety of new files. Vivid colors, supporting RGB and CMYK modes, are layered atop 3-D surfaces; adjustable lighting and shadows add realism. Compact Alien Skin files (under 20K) can be rendered at any size and resolution. Creative professionals who need unique textures for their multimedia, print or video projects will want Alien Skin.

To Order Virtus Alien Skin, call 1-800-847-8871 (1-800-VIRTUS1) 9:00am - 6:00pm EST

Windows System Requirements:

386 or better PC 8 MB RAM Windows 3.1 or later.

Recommended for optimum performance: 80486/33MHz or Pentium 24-bit VGA display.

Virtus VR

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Color Lifter Tool

By selecting this tool and then clicking on a surface in the Design View, that surfaces color becomes the currently selected color. (The Color Lifter cannot be used in the Walk View.)

The Magnify Tool

Each click of the Magnify Tool (in the Design View only) increases the apparent sixe of the drawing by a factor of two. There is a limit to how closely you can zoom in. When you reach the limit, clicking the Magnify Tool will have no effect.

You can also zoom in by selecting Zoom In under the Design menu.

Zoom-Out Tool

This tool is accessed by selecting the Magnify Tool and pressing the Ctrl key. Each click of the Zoom-Out Tool decreases the apparent size of the drawing by a factor of 2. There is a limit to how far you can zoom out. When you reach the limit, clicking the Zoom-Out Tool will have no effect.

You can also zoom out by selecting Zoom Out under the Design menu.

Select Object Tool

The Select Object Tool is used to select and edit objects. The Select Object Tool is used in the Design Views, Surface Editor and Tumble Editor. In the editors, the Select Object Tool functions differently than in the Design Views.

If you are working with another tool and wish to use the Select Object Tool , press the space bar and the Select Object Tool will automatically be selected. Press the space bar again to go back to the previously selected tool.

In the Design Views and Surface Editor, the Select Object Tool is used to select, move and change the size or shape of objects and surface features.

Tape Measure Tool

The Tape Measure Tool finds the distance between two points. The distance is displayed in the Coordinates Window. (See Coordinates Window in your WalkThrough Pro Manual.)

Scale Object Tool

The Scale Object Tool functions in the Design Views or Surface Editor, and scales an object or surface feature about its center or about a specified anchor point.

Objects may be scaled independently along any of the three coordinate axes.

Objects may also be scaled uniformly in all dimensions (X, Y and Z) by holding down the Shift key before dragging.

When an object is scaled, its contents and any surface features are scaled with it unless you hold down the Ctrl key while you are dragging.

Skew Object Tool

The Skew Object Tool , nested under the Scale Object Tool , distorts an object from its true symmetrical form, making the object out of plumb. An object can be skewed on more than one axis, but only from the view (or opposite view) in which it was created.

Lock Object Tool

The Lock Object Tool functions in the Design Views and in the Surface Editor, and allows you to lock objects or surface features so they cannot be edited. A locked object or surface feature appears with a dotted polygonal outline rather than a solid outline.

Hide Object Tool

The Hide Object Tool, nested under the Lock Object Tool, functions in the Design Views and in the Surface Editor, and allows you to hide objects or surface features in the Design Views, the Walk View or both. The Hide Object Tool hides objects and surface features from the view, but does not actually remove them from the model.

Create 8-Sided Object Tool

The Create 8-Sided Object Tool draws an 8-sided polygonal object outline or surface feature.

Create Irregular Object Tool

The Create Irregular Object Tool draws an irregular-shaped polygonal outline, one segment at a time. This tool *does not* draw non-convex objects or surface features.

Create Rectangular Object Tool

The Create Rectangular Object Tool draws a rectangular polygonal outline.

Connect Surfaces Tool

The Connect Surfaces Tool functions in the Design View and is used to connect two objects together at a common surface. A connection between surfaces is necessary to see any common surface features such as the colored, transparent or translucent surface features representing doorways or windows. Without the connection, surface features between objects will not be shared and holes will not penetrate both surfaces.

A common misconception is that a connection will increase speed. This is not true. A connection should be made only where necessary, that is, where surface features are shared between two objects.

Add/Remove Handle Tool

The Add/Remove Handle Tool functions in the Design View and the Surface Editor, and is used to add a new handle to an object or surface feature or to remove an existing handle. A handle represents a vertex-the meeting of two object surfaces.

Rotate Object Tool

The Rotate Object Tool functions in the Design Views and the Surface Editor, and is used to rotate an object or surface feature. When rotating an object, this tool works in any view, thus allowing rotation on more than one axis.

The Lighting Editor Tool

The Lighting Editor Tool functions in the Design Views and in the Tumble Editor and opens the Lighting Editor. The Lighting Editor lets you set the intensity and color of light sources inside a selected object or inside the Virtus world.

Surface Editor Tool

The Surface Editor Tool functions in the Design Views and Tumble Editor and accesses the Surface Editor.

The Tumble Editor Tool

The Tumble Editor Tool functions in the Design Views and accesses the Tumble Editor. The Tumble Editor allows you to add a surface to a selected object by slicing off a piece of the object. The Tumble Editor also allows you to edit the color and opacity of a selected object or object surface.

Color Bar

The Color Bar functions in the Design Views, the Surface Editor and the Tumble Editor, and displays the default color for new objects. It also allows new colors to be selected, created and assigned to objects or surface features. Colors can be applied to translucent as well as opaque objects and surfaces.

The current color displayed in the Color Bar is the default color for all newly created objects or surface features. The default color and the color of existing objects or surface features can be changed.

The Opacity Modifiers

Opacity Modifiers function in the Design Views, the Surface Editor and the Tumble Editor; these edit the opacity of entire objects, selected object surfaces or surface features. Object surfaces can be modified in the Tumble Editor or the Surface Editor, and surface features can be edited only in the Surface Editor.

The Inflation Modifiers

The Inflation Modifiers determine the inflation type, or shape, of an object. Inflation is the process of creating a 3-D object from a 2-D polygonal outline. The distance and the direction of object inflation are determined by the Depth Control Gauges.

Flat Shading Modifier

The Flat Shading Modifier is the default Appearance Modifier when creating a new object. With this modifier selected, objects and object surfaces are displayed with shaded surfaces controlled by the default lighting and the polygonal outline of the object or surface.

Library objects or other grouped objects must be ungrouped before they may be edited with the Flat Shading Modifier .

Changing an object to be flat shaded

Select the object to be shaded, and double-click the Flat Shading Modifier .

Smooth Shading Modifier

The Smooth Shading Modifier is used when a more realistic image is required. With this modifier selected, objects and object surfaces are displayed with smooth gradations of color from surface to surface. Lighting still affects objects that are modified this way, but the effect is much less intense.

Objects without many facets do not usually benefit from being smooth shaded. The examples at left show some good and poor uses of the Smooth Shading Modifier .

Library objects or other grouped objects must be ungrouped before they may be edited with the Flat Shading Modifier .

Changing an object to be smooth shaded

Select the object to be shaded, and double-click the Flat Shading Modifier .

Layer List

The Layer List displays the names of the different layers that you create. When you are working on complex models, layers can be helpful. Individual layers may be locked, hidden or assigned a special color in the Design Views, or a layer can be hidden from the rendering in the Walk View. For example, if you were creating a building with many floors, you could put each floor in its own layer. You also might wish to put furniture in its own layer.

When you draw new objects, they are put in the layer whose name is highlighted in the layer list. Though it is possible to move objects to different layers, it is a good idea when drawing new objects to first highlight the layer where you want the new objects to reside. This will save you the time of having to move them later. Initially, there is only one layer, *Unnamed*, and all objects are put in this layer unless you create another.

Walk Mode Selector

The Walk Mode Selector, which enables navigation, is the default setting for the Walk View

The 3-D Object Selector

The 3-D Object Selector selects an object in the Walk View and centers that object in the Design View. When an object is difficult to locate in a complex model, the 3-D Object Selector is very helpful.

The 3-D Surface Selector

The 3-D Surface Selector allows the selection of an object's surface from the Walk View. This feature works just like the Design View's Surface Editor. A special feature of this tool allows for the surface selection of a grouped object (i.e. a chair or sofa as a library object).

Background Color Selector

The Color Bar at the top of the Tools Pad is the Background Color Selector used to change the color of the background within the Walk View.

Changing the background color Mouse down on the Background Color Selector (Color Bar) that is used to reveal the color selector. Drag the mouse to the desired color and release.

The Lens Focal Length Tool

The lens size indicator and the sliding control beneath it are both parts of the Lens Focal Length Tool. If the sliding control is moved, the reading in the lens size indicator will change to display the new lens focal length. You can also adjust the lens focal length by highlighting the numbers in the lens size indicator, then typing a new number and pressing the Enter/Return key. You must press the Enter/Return key for the change to take effect.

The Orientation Cube

The Orientation Cube shows the orientation of the Observer inside the Virtus world. If any objects can be seen, the Orientation Cube will indicate the side(s) of the objects that the Observer is facing: F=Front, B=Back, L=Left, R=Right, T=Top, <u>b</u>=bottom.

You can always tell your orientation in the model by noting the display of the Orientation Cube. It is especially helpful in orienting you when viewing a model that someone else has created.

The Orientation Cube also appears in the Tumble Editor, but has added functionality there.

Record, Playback Path

As you navigate through a model in the Walk View, you can record and later play back the walk path with the Record Tool and Playback Tool .

The length of a recording is limited only by memory; however, it is unlikely that you will run out of memory because the requirement is small.

When you save a file, the recorded walk path is saved with it. When you open the file again, you can click the play button and view the recording. Only one recorded path can be saved with each model. If you record another, the previous path will be erased.

File Menu

Many of the WalkThrough Pro File menu options and commands are standard for the Windows operating system. These include New, Open, Close, Save, Save As, Print Setup, Print and Quit. If you are unfamiliar these options and commands, please review your Windows system documentation.

New

New creates and opens a new WalkThrough Pro file.

Open...

Open displays the standard Macintosh or Windows Open dialog from which you can select an existing file to open.

Close

Close closes the current file. If you made any changes to the file since the last time you saved it, you will be prompted to save the changes before the file is closed.

Save

Save saves the current file under the currently used name.

Save As...

Save As... opens the standard Macintosh or Windows Save As. dialog that allows you to save the current file under a new name or in a different format. WalkThrough Pro gives you the option of saving files as Virtus WalkThrough Pro (with textures embedded or linked) or Virtus VR.

Revert to Saved

Revert To Saved opens the last saved version of the current file. If you select this option, any changes made to the model since the last time you saved it will be lost unless you first use Save As and save the changes to the file under another name.

Print

Print prints the active window centered on the page and enlarged within the constraints of the page. What you see is what will print.

Print Setup

Print Setup opens the standard Windows dialog with which you choose printout size, paper orientation and other printing features.

Credits

Credits allows you to personalize your model by adding a custom splash screen to your file. After creating a BMP image, select Credits. The standard system Find File dialog box will prompt you to locate a BMP to place. Also, there is a text area where you may describe your model (or location of the model) or give information about the artist.

Import Trace Laver

Import Trace Layer allows you to select a 2-D file in BMP, 2-D DXF or TIFF format and import that file into a WalkThrough Pro model as a drawing template. *Import Trace Layer* allows you to import a line drawing, such as a floor plan, and draw objects over the line drawing, using it as a guide.

Export

Export allows you to save the currently open WalkThrough Pro file to another file format.

Export displays a pop-up menu containing the possible file formats to export to. Available file formats for exporting are DXF 2-D, DXF 3-D and Virtus Player.

Highlighting a file format displays a dialog containing options specific to the file format.

Snapshot

Snapshot allows you to save a view of a WalkThrough Pro model in another file format. The saved view can be a particular perspective in the Walk View, the drawing in a Design View, the Surface Editor window, the Tumble Editor window, the Lighting Editor window or a recorded walk path.

Snapshot displays a pop-up menu listing possible file formats to save the snapshot to. Possible formats are BMP, EPS, Illustrator and TIFF.

Make Movie

This command allows you to save a recorded Walk Path as a movie file.

Taking a snapshot in Animator Pro or Video for Windows

You must first record a walk path using the Record Tool . If you have not recorded a walk path, the Animator Pro/Video for Windows format option will be grayed out and unselectable.

Library

Library allows you to create a new object library or open an existing object library. Choosing *Library* displays the standard Open dialog from which you can select an existing library to open. In addition to the standard dialog buttons, the *New* button is displayed, which allows you to create a new library. Once a library is open, Library items can be added to or copied from the library.

Exit

Exits WalkThrough Pro. If a model is open and changes were made since the last time it was saved, you will be prompted to save any changes before exiting.

Edit Menu

Undo

Undo undoes the last operation. This command is available in the Design Views as well as all Editors.

Cut

Cut removes any selected objects, surface features or slices and places them in the Clipboard. Cut objects, surface features and slices can then be pasted with the Paste command.

Copy

Copy copies any selected objects, surface features or slices to the clipboard. The difference between Copy and Cut is that Copy leaves the original in place, and Cut removes the original. Copied objects, surface features and slices can then be pasted with the *Paste* command.

Duplicate

Duplicate makes an exact copy of any selected object or surface feature and places it on or near the original. *Duplicate* does not copy to the Clipboard as does the Copy command.

Paste

Paste pastes the contents of the Clipboard into the model. Clipboard contents can include objects, surface features or slices. Different rules apply for where these types of Clipboard content can be pasted. For example, you cannot paste a slice in the Design View because a slice has no meaning there. A slice can be pasted in the Tumble Editor. Similarly, surface features have meaning only in the Surface Editor, and object polygonal outlines have meaning only in the Design View.

Delete

Delete removes (deletes) selected objects, surface features or slices without placing them into the Clipboard. Selected objects, surface features and slices can also be deleted by pressing the Delete key. The difference between Cut and Delete is that Delete removes objects completely, whereas Cut removes objects to the Clipboard so that they may be pasted again.

Modify Selected

Modify Selected is a pull-out submenu of modifiers that may be applied to selected objects in the Design View and to selected surface features in the Surface Editor. If a particular option is not available, it will be grayed. If the Walk View is active, all options are gray.

Select All

Select All selects all objects (displays all handles). If your entire model is being created as a library item, use the Select All command to select all the objects and then group them with *Group* under the Design menu.

All objects can also be selected by double-clicking the Select Object Tool .

UnSelect All

UnSelect All unselects objects or surface features (removes handles). Another method of unselecting is clicking on the background in the Design View or Surface Editor.

Hide Selected

Hide Selected hides selected objects and surface features. Hiding objects or surface features allows you to work with overlapping objects or surface features without having to shuffle them.

Show All

Show All displays all objects or surface features that have been hidden with either the Hide Object Tool or the Hide Selected command.

Lock Selected

Lock Selected locks selected objects in the Design View and selected surface features in the Surface Editor. Locking objects or surface features prevents them from being edited. When an object or surface feature is locked, its polygonal outline is dotted rather than solid.

UnLock All

Unlock All unlocks all objects or surface features locked with the Lock Object Tool or with the Lock Selected command to allow editing.

Preferences

Preferences opens the Preferences dialog. The Preferences dialog allows you to set preferences for the appearance of the Design and Walk Views, navigation, measurement units and other application and model attributes. With the Preferences dialog, you can customize your application.

View Menu

The View menu allows you to open new Design Views, change an open Design View to another view, make the Walk View active, access the Lighting Editor for the Virtus world, and manipulate the position of the Observer and the center of the active view.

Change View

Change View is a pull-out submenu that lists possible Design Views to which the current Design View window can be changed. Change View is only available when a Design View or the Surface Editor is active. If an option in the Change View submenu is not available, it will be grayed.

The Change View options are Top, Bottom, Front, Back, Left, Right and Opposite.

New View

New View is a submenu that lists possible views that can be opened in a new window. The new views that you can open include the Design Views, the Walk View and the world lighting.

Set Home to Editor

Set Home to Editor specifies home as the center of the current Design View window. By using the home position as a reference point, you can quickly move the Observer or the center of the active Design View to the home position from anywhere in the Design View window. To move the Observer home, use the *Home Observer* command. To move the center of the Design View home, use the *Home Editor* command.

Set Home to Observer

Set Home to Observer specifies home as the position of the Observer. By using the home position as a reference point, you can quickly move the Observer or the center of the active Design View to the home position from anywhere in the active Design View window. To move the Observer home, use the Home Observer command. To move the center of the Design View home, use the Home Editor command.

Home Editor

Home Editor returns the center of the active Design View to the home position. Home is specified with the Set Editor to Home command, the Set Observer to Home command or in the Preferences, Defaults dialog.

Home Observer

Home Observer returns the Observer to the home position. Home is specified with the Set Editor to Home command, the Set Observer to Home command or in the Preferences, Defaults dialog.

Center Observer

Center Observer moves the Observer to the center of the active Design View.

Reset Origin

Reset Origin resets the Origin to true 0,0 coordinates if it has been changed.

Level Observer

Level Observer orients the line of sight in the Walk View, making it level if it has been altered with the Shift key while navigating.

Design Menu

The Design menu is available only when a Design View is active. If the Surface Editor, Tumble Editor, Lighting Editor or Walk View is active, the Design menu is replaced with the active window's associated menu.

Snap to Grid

Snap to Grid snaps objects, surface features and slices to an invisible grid when they are created, moved or edited. The grid is based on the ruler tick marks in the Design View, Surface Editor and Tumble Editor. Handles of objects, surface features and slices will "snap to" the grid when *Snap to Grid* is selected.

If you zoom in or out, the ruler tick marks change and, therefore, the invisible grid changes. For example, if each tick mark represents one inch, handles snap to the nearest inch. If each tick mark represents one foot, handles snap to the nearest foot.

Zoom In

Zoom In increases the apparent scale and the apparent size of objects in the view by a factor of 2. With each Zoom In, the minor tick marks on the rulers represent a smaller unit of measurement. There is a limit to the range of the Zoom-In command. When you reach the limit, selecting Zoom In will have no affect.

Zoom Out

Zoom Out reduces the apparent scale and the apparent size of objects in the view by half. With each Zoom Out, the minor tick marks on the rulers represent a larger unit of measurement. There is a limit to the range of the Zoom-Out command. When you reach the limit, selecting Zoom Out will have no effect.

New Layer

New Layer lets you add a new layer to the Layer List. If you select New Layer, a dialog appears with a text box in which you can type the new layer name.

Delete Laver

Delete Layer deletes the selected layer in the Layer List. If you select Delete Layer you will be prompted to verify the deletion.

Group

Group groups all selected objects treating them a single object. A grouped object can be moved, copied, rotated and scaled. It is important to group library items with the Group command before copying them to a library.

UnGroup

UnGroup ungroups selected objects that were grouped with the Group command. Once you ungroup an object, all the objects that make up the group remain selected until you click somewhere else inside the view. This means that if you want to change the color of a grouped object, you can ungroup it, select a new color and group the objects again. This only works if you want all objects within the group to be the same color.

Light Menu

The Light menu is available only when the Lighting Editor is the active window. If the Design View, Surface Editor, Tumble Editor or Walk View is active, the Lights menu is replaced with the active window's associated menu. (See Lighting Editor.)

Apply Changes

Apply Changes causes the changes made within the Lighting Editor to be applied to the interior of the selected object or to the world in your WalkThrough Pro model.

Revert

Revert changes the Lighting Editor back to the way it was when you last selected Apply Changes. If you made changes to the Lighting Editor, but you don't like the changes, you can basically "erase" them with Revert, as long as you have not applied the changes first.

New Light

New Light adds a new light to the Lights List. The new light can be directional or ambient and can have color.

Delete Light

Delete Light removes the selected light from the Lights List.

Surface Menu

The Surface menu is available only when the Surface Editor is the active window. If the Design View, Tumble Editor, Lighting Editor or Walk View is active, the Surface menu is replaced with the active window's associated menu.

Snap to Grid

Snap to Grid snaps surface features to an invisible grid when they are created, moved or edited. The grid is based on the ruler tick marks. Handles of surface features will "snap to" the grid when Snap to Grid is selected.

Zoom In

Zoom In increases the apparent scale and the apparent size of objects and surface features in the view by a factor of 2. With each Zoom In, the minor tick marks on the rulers represent a smaller unit of measurement. There is a limit to the range of the Zoom In command. When you reach the limit, selecting Zoom In will have no affect.

Zoom Out

Zoom Out reduces the apparent scale and the apparent size of objects and surface features in the view by half. With each Zoom Out, the minor tick marks on the rulers represent a larger unit of measurement. There is a limit to the range of the Zoom Out command. When you reach the limit, selecting Zoom Out will have no affect.

Move Forward

Used with multiple surface features that overlap, *Move Forward* shuffles the order of the overlapping features by moving a selected surface feature forward one position. For example, if the selected surface feature has three surface features in front of it, *Move Forward* will cause only two surface features to be moved in front of the selected feature. The third surface feature will move behind the selected feature.

Move to Front

Used with multiple surface features that overlap, *Move to Front* shuffles the order of the overlapping features by moving a selected surface feature to the front of all the overlapping features.

Move Back

Used with multiple surface features that overlap, *Move Back* shuffles the order of the overlapping features by moving a selected surface feature back one position. For example, if the selected surface feature has two surface features in front of it and two behind it, *Move Back* will cause three surface features to be moved in front of the selected feature and only one behind it.

Move to Back

Used with multiple surface features that overlap, *Move to Back* shuffles the order of the overlapping features by moving a selected surface feature to the back of all the overlapping features.

Tumble Menu

The Tumble menu is available only when the Tumble Editor is active. If the Design View, Surface Editor, Lighting Editor or Walk View is active, the Tumble menu is replaced with the active window's associated menu.

Snap to Grid

Snap to Grid snaps slices to an invisible grid when slices are created, moved or edited. The grid is based on the ruler tick marks. Handles of slices will "snap to" the grid when Snap to Grid is selected.

Zoom In

Zoom In increases the apparent scale and the apparent size of objects and surface features in the view by a factor of 2. With each Zoom In, the minor tick marks on the rulers represent a smaller unit of measurement. There is a limit to the range of the Zoom In command. When you reach the limit, selecting Zoom In will have no affect.

Zoom Out

Zoom Out reduces the apparent scale and the apparent size of objects and surface features in the view by half. With each Zoom Out, the minor tick marks on the rulers represent a larger unit of measurement. There is a limit to the range of the Zoom Out command. When you reach the limit, selecting Zoom Out will have no affect.

Reverse Slice

Reverse Slice changes which side of a slice is removed. The direction in which the slice is drawn through an object determines which side of the object is removed. If you drag from left to right or from top to bottom, the portion above or to the right of the line will be sliced off. If you drag from right to left or from bottom to top, the portion below or to the left of the line will be sliced off. Reverse Slice changes the slice direction.

Walk Menu

The Walk menu is available only when the Walk View is active. If the Design View, Lighting Editor, Surface Editor or Tumble Editor is active, the Walk menu is replaced with the active window's associated menu.

Button Down

Button Down controls how movement in the Walk View starts and stops. If *Button Down* is selected (is checked), movement begins when you press and hold down the mouse button. When you release the mouse button, movement stops.

If Button Down is not selected, movement stops when you press and hold down the mouse button and begins when you release the mouse button.

Cross Hair

Cross Hair turns on and off the display of the cross hair in the center of the Walk View. The cross hair orients the mouse pointer when navigating through the model.

Velocity Grid

Velocity grid marks are the horizontal and vertical marks in the Walk View that display the points at which walk speed changes. Novice WalkThrough Pro users may find the velocity grid helpful while learning to navigate. The default for the velocity grid marks is off (not visible).

Normal Speed

Normal displays all translucent and transparent object surfaces and surface features, and displays object color fill and wire frames.

Fast

Fast displays all translucent and transparent object surfaces and surface features and displays object color fill and wire frames, but does not display textures.

Faster

Faster speeds up your walk through by not allowing you to see through transparent or translucent object surfaces or surface features.

Fastest

Fastest speeds up your walk through by displaying only wire frames of objects; no object color fill is displayed.

Record

Record allows you to record a walk path. You may also record a walk path by selecting the Record Tool in the Tools Pad. Record allows access to the recording function when in Full Screen mode.

Play

Play allows you to play back a recorded walk path. You may also play back a walk path by selecting the Playback Tool in the Tools Pad. Play allows access to the playback function when in Full Screen mode.

Stop

Stop stops a recorded walk path if one is playing. You may also stop a recorded walk path by selecting the Stop Tool in the Tools Pad.

Aspect Ratio

Aspect Ratio reads the aspect ratio setting in the Preferences, Navigation dialog and applies it to the Walk View.

Full Screen

Full Screen opens the Walk View window to fully cover your computer screen, including the Menu Bar. The Menu Bar is still there, but it is hidden. If you point to the normal position of the Menu Bar, you can still pull down the menus.

To change back to a normal screen mode, find the Walk menu by pointing to its normal position and select *Full Screen* again.

Window Menu

The Window menu displays the names of all open windows, views and models, and contains commands for displaying the Tools Pad and the Depth window. The Window menu helps you quickly navigate through open views and models.

Tools Window

Tools Window displays or hides the Tools Pad. There is only one Tools Pad, though there are several sets of tools (see Windows). If the Tools Pad is hidden in one view or editor, it is hidden for all views and editors.

Depth Window

Depth Window displays or hides the Depth window. The Depth window is a ruler, like the Design View rulers, that contains a Depth Control. The Depth window displays the position and inflation distance for the active design view. If you change to another design view, the Depth window will change to display the position and inflation distance for the new view.

Coordinates Window

The *Coordinates Window* identifies the position of the mouse cursor in the active drawing area. The information in the Coordinates Window helps you measure and draw accurately. The Coordinates Window does not function in the Walk View.

Textures Window

The Textures Window displays the Textures Window which allows access to applying textures to objects.

Help Menu

The Help menu allows you to search an on-line text file for help with WalkThrough Pro. The Virtus WalkThrough Pro 2.0 Help System is meant as an on-line reference guide only. It does not contain any tutorial information. The Help System is intended as a supplement to the manual included with this software, NOT a replacement. Please refer to the manual for more detailed descriptions and guides about WalkThrough Pro.

The Help menu is a standard Windows menu. See your Windows documentation for more about the Help menu.

Contents

Contents displays an alphabetical listing of all topics available in the on-line help file.

Search for Help On

Search for Help On allows you to enter a text string to search for specific information within the online help file.

How to Use Help

How to Use Help displays information about the Windows Help menu system and instructions for its use.

About WalkThrough Pro

About WalkThrough Pro displays the version number and copyright notice for your WalkThrough Pro application.

Virtus Galleries

Virtus Galleries are extremely useful because they provide many preconstructed 3-D objects and scenes that you can use in building your own models whether its an item or an entire room. Virtus Galleries are compatible for use with Virtus VR and Virtus WalkThrough Pro 2.0.

To date, the Virtus gallery topics include:

Alphabet Rooms

Explore and modify virtual rooms based on letters of the alphabet.

- 26 scenes, including A is for Art, H is for House, M is for moon, etc.
- virtual alphabet blocks.
- 3-D galleries featuring numbers, and upper and lower case letters.
- textures including more than 100 colorful enamels, paints, minerals and more.

Archaeology

Explore and modify ancient ruins, temples, pyramids and more.

- 17 scenes, including the Temple of Neptune, Great Pyramid and Stonehenge.
- 3-D galleries featuring Roman and Viking weapons, temple parts, kitchen equipment and more.
 - 2-D galleries featuring many openings and entrances.
 - textures including stone, hieroglyphics, tiles and more.

Home Remodeling

Remodel your living space to create your dream home.

- 5 scenes, including a beach cabin, mountain home and country club estate.
- 27 models, featuring bathrooms, kitchens, living rooms, bedrooms, garages and more.
- 2-D galleries with home doors and windows (opaque, translucent and transparent).
- textures for indoors and

Interior Design

Use the creations of famous designers to furnish your home or business.

- 12 scenes, including the Berlin House (Mies van der Rohe), Glass House (Philip Johnson) and Fallingwater (third floor, Frank Lloyd Wright).
 - 11 models of sample rooms and suites.
 - 2-D galleries with various styles of windows and doors.
 - textures including cabinet surfaces, ceiling panels, wallpaper, cloth and more.

Office Design

Rearrange or redesign your work space.

- 5 scenes, including a general office, teleconference center and reception/conference com.
- 3-D galleries featuring desks, office equipment (copiers, computers, etc.), office furnishings and modular conference and storage units.
 - 2-D galleries of doors and windows.
 - textures including wood, stone, leather, tile and more.

Science Fiction

Build or modify fantasy worlds from far, far away.

- 5 scenes, including Dragonfly, Mirror World and Stellar Ark.
- 45 models, including space stations, vehicles and astronauts.
- 3-D galleries featuring spaceships, space vehicles, dissecting table and DNA dusters.
- 2-D galleries of windows and doors.
- textures including celestial bodies, lunar surface, starfields and more.

(Note: Virtus Galleries are modules and require that you have the applications Virtus VR or Virtus WalkThrough Pro 2.0 or later.)

To Order Virtus Galleries, call 1-800-847-8871 (1-800-VIRTUS1) 9:00am - 6:00pm EST

Virtus Alien Skin

<u>Virtus VR</u>

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