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Welcome to WIRL

Welcome to WIRL!

WIRL Interactive VR Browser

A Plug-in for Netscape Navigator 2.0

from
VREAM, Inc.

Welcome to the **WIRL Interactive VR Browser**, the world's first true virtual reality browser for the Web. WIRL brings you the future of virtual reality on the Web NOW! Immerse yourself and enjoy!

What makes WIRL so special?

For starters, WIRL works as a **plug-in for Netscape Navigator**. This means you can experience WIRL's interactive virtual reality seamlessly within your Netscape window.

That is great! What else is special about WIRL?

WIRL's most noteworthy feature is that it takes VR on the Web to a new level. It does this by enabling **object behaviors** and **logical cause and effect relationships**. WIRL allows standard VRML files to be enhanced with object dynamics, motion, sound, animations, interactivity and logic. As a result, WIRL brings static VRML files to life!

How does WIRL do this?

WIRL was developed using VREAM's virtual reality technology. Therefore, WIRL can read VREAMScript virtual reality world files (file extension .VRW), as well as standard 3D VRML files (file extension .WRL). In addition, the WIRL Browser allows standard 3D VRML Files to be given true virtual reality capabilities by creating a Virtual Reality Extensions file (file extension .VRE) that contains VREAM's scripting language commands.

Fantastic! This is really cool stuff. Can I be expecting even more capabilities within WIRL in the future?

Yes. Keep watching to find out about the latest updates to WIRL, including support for Java, Multiple Users, and additional hardware platforms.

Wow. The applications of this technology seem limitless.

The VR technology available within WIRL, opens up **endless possibilities** for applications in a wide variety of areas-- including architecture, business, education, entertainment, finance, medicine, online commerce, network visualization, among others. At VREAM, we believe the applications are infinite, limited only by the imagination.

And the best news of all is that this is **only the beginning**.

The Web will truly never be the same again! **Enjoy**.

WIRL Fundamentals

Before you get started with WIRL, we strongly recommend that you read through the following help topics.

[Viewer Navigation Mode and Object Manipulation Mode](#)

[Using the Mouse in Viewer Navigation Mode](#)

[Using the Mouse in Object Manipulation Mode](#)

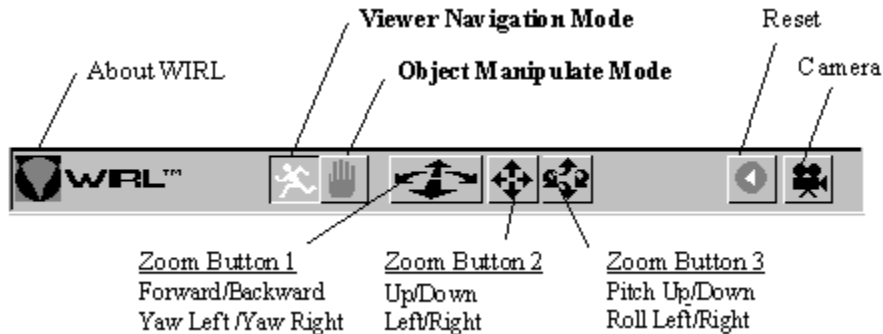
[The Zoom Buttons](#)

[The Control Panel](#)

[Authoring Capabilities](#)

Viewer Navigation Mode and Object Manipulation Mode

WIRL's Control Panel



As you look at WIRL and the WIRL Control Panel for the first time, the most important thing to understand is that WIRL provides **two modes** in which you can experience virtual worlds: **Viewer Navigation** mode and **Object Manipulation** mode. At any given time, you are either in Viewer Navigation mode or in Object Manipulation mode.



The **Viewer Navigation** mode may be selected by clicking the Left Mouse Button within the WIRL Control Panel on the Viewer Navigation Button (contains an image of a person running).



The **Object Manipulation** mode may be selected by clicking the Left Mouse Button within the WIRL Control Panel on the Object Manipulation Button (contains an image of a hand).

Within each mode, the user may interact with the world by **Using the Mouse Buttons** directly within the virtual world area or by clicking the Left Mouse Button within the WIRL Control Panel on the **Zoom Buttons** (three buttons with arrows).



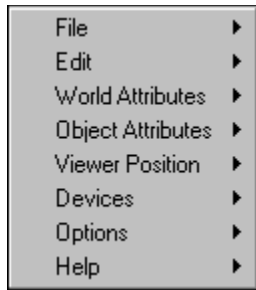
In either mode, you also can use some of the other features of WIRL that are enabled by the Buttons on the **WIRL Control Panel**.

WIRL's Control Panel



And, last but by no means least, in either of the two modes if you want to enhance a virtual world "on-the-fly", you can click the Right Mouse Button and take advantage of WIRL's **Authoring Capabilities**. With this facility, you can modify a virtual world that you encounter on the Web to suit your own needs. For example, you can modify a texture or change the behavior of an object within a virtual world.

WIRL's Authoring Menu



The various ways to interact with the virtual worlds, the WIRL control panel, and the authoring features of WIRL are discussed in more detail in this help file.

Using the Mouse Buttons in Viewer Navigation Mode

While in Viewer Navigation Mode, you can navigate through a virtual world by clicking and dragging the Left Mouse Button within the virtual world screen area. You can also jump to a new URL associated with an object, or activate logic associated with an object by clicking your Left Mouse Button on the desired object.

A complete description of the available mouse controls within Viewer Navigation Mode is contained in the table below.

Mouse Left Click on an Object with a URL



Jump to the URL Site

Mouse Left Click on an Object with Logic



Execute Logic Associated with the Object

Ctrl + Mouse Left Click on an Object



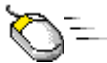
Automatically Move to the Object

Mouse Right Click



Display the WIRL Authoring Menu

Mouse Left Drag



Move Viewer forward/backward and **Yaw** Viewer left/right

Ctrl + Mouse Left Drag



Move Viewer up/down and **Move** Viewer left/right

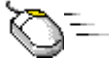
Shift + Mouse Left Drag



Pitch Viewer up/down and **Roll** Viewer left/right

Mouse Right Drag on an Object

Move Object forward/backward and **Yaw** Object left/right

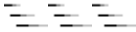


Ctrl + Mouse Right Drag



Move Object up/down
and **Move** Object left/right

Shift + Mouse Right
Drag



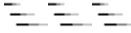
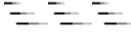

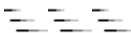
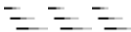


Pitch Object up/down
and **Roll** Object left/right

Using the Mouse Buttons in Object Manipulation Mode

While in Object Manipulation, you can move objects within a virtual world by clicking and dragging on the objects with the Left Mouse Button.

A complete description of the available mouse controls is contained in the table below.

Mouse Right Click 	Display the WIRL Authoring Menu
Mouse Left Drag on an Object 	Move Object forward/backward and Yaw Object left/right
Ctrl + Mouse Left Drag 	Move Object up/down and Move Object left/right
Shift + Mouse Left Drag 	Pitch Object up/down and Roll Object left/right
Mouse Right Drag on an Object 	Move Object forward/backward and Yaw Object left/right
Ctrl + Mouse Right Drag 	Move Object up/down and Move Object left/right
Shift + Mouse Right Drag 	Pitch Object up/down and Roll Object left/right

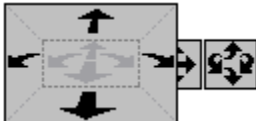
The Zoom Buttons



The **Zoom Buttons** (patent pending), located on the WIRL Control Panel, provide a simple and efficient way to both maneuver in 3D space and manipulate objects in 3D space using a standard mouse.

In Viewer Navigation mode, the zoom buttons are used to **move the viewer** through the virtual world. In Object Manipulation mode, the zoom buttons are used to **move selected objects** within the virtual world.

Each zoom button provides you with two ways to move (i.e. two degrees of freedom). A zoom button is active once you click and hold down the Left Mouse Button, which can be done whenever the cursor is above a zoom button. For example, clicking and holding down the Left Mouse Button while the cursor is above the leftmost zoom button results in that button expanding to look like this:



Once this button is expanded, the zoom button is active until you stop pressing the Left Mouse Button down. While the button is active, you can drag the mouse up and down to experience one way to move, and drag the mouse left and right to experience another way to move. For example, in the case of the leftmost zoom button, dragging the mouse up and down will move the viewer or object forwards and backwards respectively. Dragging the mouse left and right will yaw the viewer or object left and right respectively. As you drag further away from where you first clicked, the speed of movement will increase.

We encourage you to experiment with the zoom buttons. They are an intuitive way to experience virtual worlds. In addition to using the zoom buttons, you can always use the direct mouse controls discussed above as an alternative.

Troubles with the zoom buttons? Remember that in order for the zoom buttons to be active in Object Manipulation mode, you must have selected an object. Also, be aware that the author of a virtual world can prevent the viewer from moving or can designate an object as not being moveable; in this case, you will not be able to use the zoom buttons.

The Control Panel

Control Panel Button Controls



VREAM WIRL Logo

Display About WIRL Message



Moving Person Button

Switch to Viewer Navigation Mode



Hand Button

Switch to Object Manipulation Mode



First Button with Direction Arrows

If in Viewer Navigation Mode:

Move Viewer forward/backward and **Yaw** Viewer left/right

If in Object Manipulation Mode:

Move Object forward/backward and **Yaw** Object left/right



Second Button with Direction Arrows

If in Viewer Navigation Mode:

Move Viewer up/down and **Move** Viewer left/right

If in Object Manipulation Mode:

Move Object up/down and **Move** Object left/right



Third Button with Direction Arrows

If in Viewer Navigation Mode:

Pitch Viewer up/down and **Roll** Viewer left/right

If in Object Manipulation Mode:

Pitch Object up/down and **Roll** Object left/right



Reset Button

Reset the Viewer to Original Position



Camera Button

Set a new Viewer Position

Authoring Capabilities

WIRL provides the user with a variety of authoring capabilities that can be used to create new 3D virtual reality worlds and update existing virtual worlds. These authoring tools are on the popup menu which is displayed when the right mouse button is clicked. Note that these authoring capabilities represent a small subset of those offered by VRCreator, VREAM's powerful virtual reality authoring software package.

[File Menu](#)

[Edit Menu](#)

[World Attributes Menu](#)

[Object Attributes Menu](#)

[Viewer Position Menu](#)

[Devices Menu](#)

[Options Menu](#)

[Help Menu](#)

File Menu

The **File** menu contains options that allow you to save the virtual worlds you create and virtual worlds you enhance, load in new objects into a virtual world from your local hard drive and/or from Web sites around the world, and otherwise manage virtual worlds. Worlds can be saved in a variety of file formats including .WRL (VRML), .VRW (VREAM), and .VRE (VREAM extensions to VRML).

The options on this menu are currently disabled in WIRL Lite and in freeware versions of WIRL or are not yet available. To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

[Save as](#)

[Load Object File](#)

[Load Object URL](#)

[Load Options](#)

Save as

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Load Object File

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Load Object URL

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Load Options

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Edit Menu

The **Edit** menu contains options that allow you to undo your changes to a virtual world and cut, copy, paste, and delete any object within a virtual world.

The WIRL Undo, Cut, Copy, Paste and Delete commands operate much the same as they do in other applications. You can undo, cut, copy, paste, and delete any object using the commands from the Edit menu or the standard shortcut keys.

The options on this menu are currently disabled in WIRL Lite and in freeware versions of WIRL or is not yet available. To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

Undo

Cut

Copy

Paste

Delete

Undo

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Cut

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Copy

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Paste

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Delete

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World Attributes Menu

The **World Attributes** menu contains options that allow you to modify world and viewer settings.

[Shading](#)

[Background Color](#)

[Background Texture](#)

[Viewer Move Speed](#)

[Viewer Rotate Speed](#)

[Object Move Speed](#)

[Object Rotate Speed](#)

[Gravity](#)

[Collision Detection](#)

[Object Selection Type](#)

World Shading

Shading under the **World Attributes** menu allows you to define the default shading method within a virtual world.

Select one of the five available radio buttons to define the default shading method for the world. You can define whether objects will be shaded with wireframe, unlit flat, flat, Gouraud or Phong shading.

Background Color

Background Color allows you to select the background color that will be displayed in the virtual world.

Specify a color by using the color field and color slider, or by entering numerical values for each color component. The new color is displayed in the color/solid box.

Note that the custom colors options are currently not enabled.

When you are satisfied with the color, choose OK. The background color in your virtual world changes to the color you selected.

Background Texture

Background Texture allows you to display a background image within a virtual world.

The selected background image is a static texture that is displayed in the background of the virtual world window. This feature is useful because it can add a photorealistic texture in the background of the virtual world, yet the user will experience no degradation in performance.

If you know the name of the background image you wish to use, you can type it into the **Background Texture** field. Supported file types for this version of WIRL include .JPG, .PNG, and .PPM.

To choose a texture on your hard drive, use the **Browse** option, select the texture and choose **OK**.

To leave the dialog without assigning a background texture, choose **Cancel**.

Viewer Move Speed

Viewer Move Speed allows you to set the viewer move speed and viewer rotation speed.

Enter the new viewer move speed multipliers in the appropriate edit controls.

Viewer Rotate Speed

Viewer Rotate Speed allows you to set the viewer rotation speed.

Enter the new viewer rotation speed multiplier in the appropriate edit controls.

Object Move Speed

Object Move Speed allows you to set the object move speed and object rotation speed.

Enter the new object move speed multipliers in the appropriate edit controls.

Object Rotate Speed

Object Rotate Speed allows you to set the object rotation speed.

Enter the new object rotation speed multiplier in the appropriate edit controls.

Gravity

Gravity allows you to define whether gravity will exist in the virtual world, and the force of that gravity.

Enter the new object rotation speed multiplier in the appropriate edit controls.

Collision Detection

This option is currently disabled in WIRL Lite and in freeware versions of WIRL or is not yet available. To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

Object Selection Type

Object Selection Type defines the way in which objects are selected within WIRL. You can choose to select an entire group, potentially comprising multiple sub-groups, objects, and textures, or you can individually select primitives, which are typically individual objects.

Object Attributes Menu

The **Object Attributes** menu contains options that allow you to modify object settings.

[Name](#)

[URL Hyperlink](#)

[Color](#)

[Texture](#)

[Shading](#)

[Position](#)

[Touchable](#)

[Moveable](#)

[Throwable](#)

[Rotateable](#)

[Respond to Gravity](#)

[Elasticity](#)

[Auto Translate](#)

[Auto Rotate](#)

Name

Name allows you to set the name of a selected object.

Enter a name for the selected object.

Names are an important attribute for organizing objects within a virtual world. The name you choose for an object is important for identification and use in defining the object behaviors and logic-based cause and effect relationships that WIRL brings to the world of VRML. You should name objects so that you can easily identify them.

URL Hyperlink

URL Hyperlink allows you to assign a link to a selected object such that it will jump to a URL when it is picked (clicked with the left mouse button).

Enter the URL address (e.g. <http://www.vream.com>) and a description of the URL (e.g. Virtual Reality Authoring and Internet 3D Browser Software). After a URL has been assigned, whenever the cursor is on the object then the cursor will change to indicate that there is an active link and the description will appear in the Netscape Navigator status bar.

Names are an important attribute for organizing objects within a virtual world. The name you choose for an object is important for identification and use in defining the object behaviors and logic-based cause and effect relationships that WIRL brings to the world of VRML. You should name objects so that you can easily identify them.

Color

Color allows you to set the color of a selected object.

An object must be selected before this command is executed. Specify a color by using the color field and color slider, or by entering numerical values for each color component. The new color is displayed in the color/solid box.

Note that the custom colors options are currently not enabled.

When you are satisfied with the color, choose OK. The color of the selected object changes to the color you selected.

Texture

Texture allows you to select a texture which will be wrapped around a selected object using either flat, cylinder or sphere wrapping or using existing coordinates. An object must be selected before this command is executed.

If you know the name of the background image you wish to use, you can type it into the **Object Texture** field. Supported file types for this version of WIRL include .JPG, .PNG, and .PPM.

To choose a texture on your hard drive, use the **Browse** option, select the texture and choose **OK**.

To leave the dialog without assigning a background texture, choose **Cancel**.

Object Shading

Shading under the **Object Attributes** menu allows you to define the shading method for a selected object.

Select one of the five available radio buttons to define the shading method for the selected object. You can define whether objects will be shaded with wireframe, unlit flat, flat, Gouraud or Phong shading. The shading method for a particular object overrides the default shading method for the entire virtual world as long as the object's shading method is of a lesser quality than that of the world.

Position

The **Position** menu allows you to define the position and orientation of a selected object.

Enter the new position and orientation values in the appropriate edit controls.

It is recommended that only advanced users modify object orientation values. For those users who wish to modify object orientations, it is important to understand that WIRL uses two vectors, the directional vector and the up vector, to orient the object. The direction vector defines the yaw and pitch of the object. The up vector, which must be perpendicular to the direction vector, defines the roll of the object. In other words, the direction vector defines the direction the object is facing, and the up vector defines whether and how the object is tilted. Both vectors are defined from the origin.

Touchable

This option is currently disabled in WIRL Lite and in freeware versions of WIRL or is not yet available. To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

Moveable

The **Moveable** menu allows you to define whether an object may be moved by the viewer.

If you want an object to be moveable, check the **Moveable** check box.

Note that the VRML 1.0 specification currently treats the entire virtual world as a single object. You can dynamically ungroup the objects in a VRML file by using the VRC_UNGROUP script command, which is one of VREAM's extensions to VRML.

Throwable

The **Throwable** menu allows you to define whether an object may be thrown by the viewer.

If you want an object to be throwable, check the **Throwable** check box.

Note that the VRML 1.0 specification currently treats the entire virtual world as a single object. You can dynamically ungroup the objects in a VRML file by using the VRC_UNGROUP script command, which is one of VREAM's extensions to VRML.

Rotateable

The **Rotateable** menu allows you to define whether an object may be rotated by the viewer.

If you want an object to be rotateable, check the **Rotateable** check box.

Note that the VRML 1.0 specification currently treats the entire virtual world as a single object. You can dynamically ungroup the objects in a VRML file by using the VRC_UNGROUP script command, which is one of VREAM's extensions to VRML.

Respond to Gravity

The **Respond to Gravity** menu allows you to define whether an object will be affected by gravity.

If you want an object to respond to gravity, check the **Respond to Gravity** check box.

Note that the VRML 1.0 specification currently treats the entire virtual world as a single object. You can dynamically ungroup the objects in a VRML file by using the `VRC_UNGROUP` script command, which is one of VREAM's extensions to VRML.

Elasticity

The **Elasticity** menu allows you to define the elasticity of an object.

If you want an object to have elasticity, check the **Elasticity** check box and enter an elasticity value. The elasticity value is a percentage between 0% and 100%. A value of 0% indicates no elasticity (i.e. a brick). A value of 100% indicates perfect elasticity (i.e. a perfect rubber ball).

Note that the VRML 1.0 specification currently treats the entire virtual world as a single object. You can dynamically ungroup the objects in a VRML file by using the VRC_UNGROUP script command, which is one of VREAM's extensions to VRML.

Auto Translate

The **Auto Translate** menu allows you to define an automatic translation, including limits on the translation, for an object.

The entered automatic translation values for an object allow an object to translate a number of units per frame. The automatic translation values defined by the user include translational elements along the X, Y and Z world coordinate axis, which will be applied to the object before every frame is drawn.

The auto translate limit fields allows the user to define upper and lower limits on the translational motion of the object, restricting how far the object can move in any direction. Once the translating object reaches one of the defined limits, it will reverse direction and translate the opposite way until the other limit is reached. By defining limits, objects may be made to oscillate between two relative positions in space.

The translational limits defined by this command are relative values, based on the initial position of the object. For example, an upper limit of 2 in the x direction will allow an object to move 2 units in the positive x direction before stopping it. The 2 limit refers to a relative number of units, not an absolute coordinate along an axis.

Auto Rotate

The **Auto Rotate** menu allows you to define an automatic rotation, including limits on the rotation, for an object.

The entered automatic rotation values for an object allow an object to rotate around a specified pivot point in the environment. Be aware that rotations are relative to the object creator's initial midpoint specifications, and, as such, proper rotations are best defined by the creator of the object.

The automatic rotation values defined by the user, specified in degrees, include yaw, pitch and roll offset values which will be applied to the object before every frame is drawn.

The auto rotate limit fields allows the user to define upper and lower angular limits, restricting how far the object can rotate in any direction. Once the rotating object reaches one of the defined limits, it will reverse direction and rotate the opposite way until the other limit is reached. By defining limits, objects may be made to oscillate between two rotational angles.

Viewer Position Menu

The **Viewer Position** menu allows you to move to any of the pre-defined viewpoints: Original, Front, Back, Top, Bottom, Left, and Right. In addition, the user can select from custom views that have been defined within VRML files (.wrl).

Devices Menu

The options on this menu are currently disabled in WIRL Lite and in freeware versions of WIRL or are not yet available. To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

[Joystick](#)

[Virtual I/O I-Glasses!](#)

[Forte VFX1 HMD](#)

Joystick

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Virtual I/O I-Glasses!

This option is currently disabled in WIRL Lite and in freeware versions of WIRL or is not yet available. To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

Forte VFX1 HMD

This option is currently disabled in WIRL Lite and in freeware versions of WIRL or is not yet available. To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

Options Menu

The **Options** menu allows you to set various settings within WIRL.

[Control Panel](#)

[Heads Up Display](#)

[Hyperlinks](#)

[WWWInlines](#)

[Load Textures](#)

[Tool Tips](#)

[Hint/URL Tips](#)

Control Panel

The **Control Panel** option allows you to determine whether the WIRL control panel is displayed while you experience a virtual world.

Heads Up Display

This option is currently disabled in WIRL Lite and in freeware versions of WIRL or is not yet available. To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

Hyperlinks

The **Hyperlinks** option allows you to determine whether hyperlinks to URLs on the Web are active while you experience a virtual world.

WWWInlines

The **WWWInlines** option allows you to determine whether WWWInline objects are active while you experience a virtual world.

Load Textures

The **Load Textures** option allows you to determine whether textures that are associated with objects are displayed while you experience a virtual world.

Tool Tips

The **Tool Tips** option allows you to determine whether tool tips that are associated with buttons on the WIRL control panel are displayed when the cursor is above the button.

Hint/URL Tips

The **Hint/URL** option allows you to determine whether hints and/or URL descriptions that are associated with objects within a virtual world are displayed in the Netscape Navigator status bar when the cursor is above an object with a hint or URL hyperlink.

Help Menu

The **Help** menu allows you to access the WIRL Help System.

The WIRL Lite and freeware versions of WIRL have less extensive help than is available in the commercial version of WIRL.

To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

[Help](#)

[Search for Help On](#)

[Index](#)

[About WIRL](#)

[About Commercial WIRL](#)

Help

Help provides you with an introduction to the features of WIRL Lite and freeware versions of WIRL.

The **Help** file available with the commercial version of WIRL provides you with more extensive help, including step-by-step instructions for using WIRL, reference information, examples and demonstrations of WIRL features, information about the VREAM scripting language, and technical support information.

Search for Help On

Search for Help On provides you with the ability to search this Help file for any word.

Index

Index allows you to type in the first few letters of a keyword that may be associated with a topic in this help file.

About WIRL

About WIRL displays information about this version of WIRL.

About Commercial WIRL

About Commercial WIRL provides you with information on the commercial version of WIRL, which offers a number of advantages over WIRL Lite and freeware versions of WIRL.

Advanced Features

WIRL contains many advanced features which allow true virtual reality to be experienced across the World Wide Web. Some of these advanced features include:

Full Object Interactivity (Pick up objects, throw them around in 3D Space)

Object Dynamics (Objects can move, rotate, resize, etc.)

Object Physics (Gravity, Elasticity, Weight, Throwability)

Custom Object Behaviors and Logic definable as VREAMScript Extensions

Automatic Object and Viewer Paths

Full texturing

Texture Animation (For Playing Videos within the virtual World)

Play sound files from within a virtual world

Launch External Applications from within a virtual world

Authoring Capabilities (Alter content of world while within the Browser)

Supports GZip compression

. . .And there are many more awesome things to come!!

System Requirements

You will need at least the following system configuration to run the WIRL Interactive 3D Browser:

Hardware Requirements

IBM Compatible PC with at least a 486DX 33Mhz CPU (But a Pentium is much nicer)
(Note: If you have a 486SX, you will need a math coprocessor)

256 Color Display (But worlds look even better if you use 64K colors)

8 MB RAM

Mouse

Software Requirements

Windows 95 and Windows NT (Windows NT, MacIntosh and UNIX versions are under development)

Netscape Navigator Version 2.0

Supported File Formats

WIRL supports standard 3D Files in the VRML 1.0 format (file extension .WRL), and also supports fully interactive virtual reality worlds in VREAM's Virtual Reality World format (file extension .VRW).

In addition, the WIRL Browser allows standard 3D VRML Files to be given true virtual reality capabilities by creating a Virtual Reality Extensions file (file extension .VRE) that contains VREAM's scripting language commands.

VRML Support

This Version of WIRL has support for most of the VRML 1.0 specification, but there are still a few items that are not yet supported. The following VRML nodes are not yet supported, but will be soon:

AsciiText

IndexedLineSet

PointSet

LOD

OrthographicCamera

Lights

Texture2Transform

Adding VREAM Extensions to VRML Worlds

Fully supporting VRML, WIRL brings to VRML over 100 extensions in functionality, including many object behaviors and the ability to implement logic-based cause and effect relationships. These extensions are currently implemented using VREAM's **open** scripting language, called VREAMScript.

To enhance a VRML-based virtual world with VREAM extensions, add the following line to the highest level "Separator" in your VRML file (.wrl).

```
DEF VREExtensions Info {string "filename.vre"}
```

The extension file should begin with the line:

```
// VREAM Extension File
```

To set an object attribute in the extension file, use the following command to state which vrml object's attributes to change.

```
VRC_REFERENCE_OBJECT, S, Objectname;
```

Example:

```
// VREAM Extension File

// SET OBJECT ATTRIBUTES
VRC_REFERENCE_OBJECT, S, car;
    VRC_AUTO_ROTATE_RELATIVE, S, 0.1, 0, 0, 0, 0, 0, 0;
```

This would cause the car to automatically spin around when the file is loaded.

Because of the extensive nature of the VREAM scripting language, the script command extensions are not documented in WIRL Lite or in freeware versions of WIRL. The extensions *are* documented in the commercial version of WIRL and on VREAM's Web site (<http://www.vream.com>).

To be sure you have the latest and most powerful version of WIRL, consider upgrading to the commercial version of WIRL (\$29). See the **About Commercial WIRL** option under the **Help** menu for more information regarding the commercial version of WIRL.

Adding a Virtual World to a Web Page

To add a virtual world to an HTML document you need to include the following line in the HTML file:

```
<embed src=filename.ext width=mmm height=nnn>
```

where *filename.ext* can be a .VRW (VREAM) or a .WRL (VRML) file and *mmm* and *nnn* are the width and height in pixels of the virtual world.

You also can view a virtual world within the Netscape Navigator window without having it be embedded within an HTML document. Simply type the name of the .VRW (VREAM) or .WRL (VRML) file into the location field where you would normally type a URL. The WIRL plug-in will then fill the entire Netscape Navigator with the virtual world.

Note that in order to make a virtual world accessible from your server, you must add support for the following mime types:

x-world/x-vrml	wrl
x-world/x-vream	vrw

Contacting VREAM

Please feel free to contact us if you have any questions about WIRL or VRCreator or VREAM.

VREAM, Inc.
2568 N. Clark St. #250
Chicago, IL 60610
Phone: (312) 477-0425
Fax: (312) 477-9702
Web: www.vream.com
Email: info@vream.com

If you have an active Internet connection, you can use the links below to contact us NOW!

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