

HRC2WRL Ver. 1.2

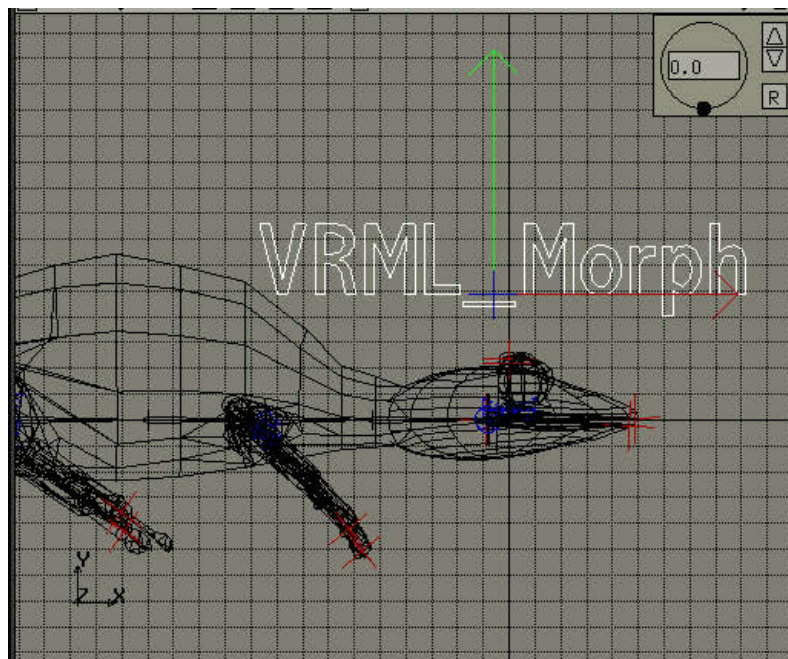
VRML97 Exporter from SOFTIMAGE(R) | 3D HRC
Ryoichiro Debuchi
atom co., Ltd. July 1999

Introduction

Installation

Using Hrc2Wrl

Using Hrc2WrlMotion



go to the next page.



go back to the previous page.





Introduction

Hrc2Wrl / Hrc2WrlMotion is a plug-in used to export polygon models in SGI-version SOFTIMAGE 3D to the WRL file in VRML 2.0 (97).

The plug-in converts an advanced non-linear transforming animation of an object in SOFTIMAGE 3D such as Lattice, Deformation, Cluster, Shape or Skelton Animation or Dynamic Simulation by using a VRML coordinate interpolating function.

This tool can also be used on a linear transforming key-frame animation.

The tool's simultaneous conversion covers also Texture Coordinates, Global Materials, and Local Materials.

The tool is designed to export a single object by a single operation, and so it does not convert a multi-layered HRC model at a time.





Installation

1) Decompressing after downloading HRC2WRL.tar.gz.

On the UNIX command line, type:

```
> ungzip HRC2WRL.tar.gz  
> tar xvf HRC2WRL.tar
```

This will create a directory by the name **"/HRC2WRL"** on your workstation.

2) Customizing the plug-in to SOFTIMAGE 3D

Under the directory **"/HRC2WRL"**, find three directories and files as follows:

```
bin / Hrc2Wrl, Hrc2WrlMotion, hrc2wrl, pop_err  
model / Hrc2Wrl.cus  
motion / Hrc2WrlMotion.cus, VRML_Morph.hrc
```

Login as Super User. Copy all the files in each directory and copy them under a corresponding SOFTIMAGE system directory on your workstation.

```
Select all files under "/bin" -> Copy them under soft/3D/custom/bin  
Select all files under "/model" -> Copy them under soft/3D/custom/model  
Select all files under "/motion" -> Copy them under soft/3D/custom/motion
```

***Use the directory name that is currently used by your system. ("soft" is used in this example.)**

3) Checking the plug-in

Re-start your SOFTIMAGE 3D program to confirm that the following is listed in its menu:

```
Model->Draw->Hrc2Wrl  
Motion->Effect->Hrc2WrlMotion
```



Using Hrc2Wrl

export .wrl (VRML 2.0)

Directory Name

File Name

Attach NavigationInfo ?

Attach BBox ?

Output in Short Values ?

Save Transformation ?

Attach Local Material ?

Use Concave Polygons ?

Solid ?

Attach Texture ?

Texture File Name

Use texCoordIndex ?

#use texCoordIndex for UV-texture.

Axis of Texture (Cylindrical/Spherical Mapping)

axis X axis Y axis Z

Cancel Ok



- 1) Make a polygonal object by using the Model module in SOFTIMAGE 3D.
Depending on your needs, you may attach the materials and/or textures to the model.
- 2) Choose the Model->Draw->Hrc2Wrl command.
The Hrc2Wrl dialogue box appears.
- 3) Set the parameters as desired.
- 4) Click Ok to accept the settings.
- 5) Pick an object that you want to export to the WRL file.

Parameters

Directory Name:

The directory name in which you want save the WRL files.

Enter an absolute path name to the box by typing.

e.g. /indigo/usr/atom/vrml

File Name:

The WRL file name. An .wrl extention is not required.

Attach NavigatioInfo ?

When this option is selected, a NavigationInfo node shall be attached to the file, and it sets the navigation paradigm to "EXAMINE".

Attach BBox ?

When this option is selected, a bbox (a maximum possible bounding box for the object) shall be attached to the Group node.

Output in Short Values ?

When this option is selected, floating point numbers of coordinates of vetices shall be saved in short numerical values.

e.g. 1.000000 -> 1

(Tip) But it would occasionally save numbers like 0.000000 -> 2.18557e-07.



**[] Save Transformation ?**

When this option is selected, a Transform node shall be attached to the file. It exports translations, rotations and scaling of the model.

(Tip) If you don't select this, and save the object with the Effect->Freeze command, those objects shall look like the same in VRML browsers.

[] Attach Local Material ?

Select this, when the object has Local Materials.

[] Use Concave Polygons ?

Select this, when the object includes concave polygons.

[] Solid ?

When this option is selected, backface culling shall be done.

Deselect this, when you want both sides of each polygon are displayed.

[] Attach Texture ?

When this option is selected, a texture shall be attached to the WRL file.

(Tip) When you want attach a texture to the model, you must attach somewhat to the object by using the Matter->2D Texture command. It is not necessary that the texture image is the same as the image in the WRL file.

[] Attach texCoordIndex ?

When this option is selected, the texCoordIndex field of the IndexedFaceSet node shall be attached.

It sets texture coordinates to each polygon. When the object is attached UV texture coordinates, you may select this option.

(Tip) Some VRML browsers do not recognize texCoordIndex fields.

[] Axis of Texture

Select one of the axes of center, when the object is attached cylindrical or spherical texture coordinates.

(Tip) Info->Selection->Automatic Discontinuity shall correspond to the smoothness of shading.





Using Hrc2WrlMotion

export WRL with 3D Morph (Motion)

Directory Name

Save File Name

Attach NavigationInfo ?

Attach BBox ?

Output in Short Values ?

Save Transformation ?

Attach Local Material ?

Use Concave Polygons ?

Solid ?

Attach Texture ?

Texture File Name

Save Transform Animation ?

Save 3D Morphing ?

Start Frame

End Frame

Frame Step

How to Play-back

One-way Loop Switch Back

CycleInterval

Attach TouchSensor ?

Use texCoordIndex ?

`#use TexCoordIndex for UV-Mapping.` `#select a model and play-back the scene.`

`#this works on only single model.`

Axis of Texture (Cylindrical/Spherical Mapping)

axis X axis Y axis Z





1) Create an animated object by using SOFTIMAGE 3D.

It may include the keyframing animation of scaling, rotations and translations and/or the non-linear transforming animation of geometry (3D Morphing) like Lattice, Deformation, Cluster, Shape or Skelton Animation or DynamicSimulation, etc.

2) Choose the Motion->Effects->Hrc2WrlMotion command.

The Hrc2WrlMotion dialogue box appears.

3) Set the parameters as desired.

4) Click Ok to accept the settings.

5) Pick an object that you want to export to the WRL file.

6) Play back your animation by using the playback box located at the right end of the window from the "Start Frame" to the "End Frame" that has been set in the dialogue box.



(Tip) If you want to modify the animation itself, you only play back the scene again by using the playback box, after you modified it as desired.

In activating Hrc2WrlMotion, occasionally the WRL data may not be generated or cut in the middle. In such cases, play back your scene animation again.

If you want to modify the parameters set in the dialogue box, delete the "VRML Morph" icon that is being activated now by using the Delete->Selection command, and choose the Hrc2WrlMotion dialogue box and set it again.

