Demo Version "Envisage 3D" Only

Distribution Examples

This tutorial takes a look at the examples on the installation disk. They illustrate some of the advanced as well as some of the most basic features of the program. Check the Keyframer screen to check on the setting up of timelines and keyframes.

It would be a good idea the experiment with the animations while you read this tutorial.

Note: Because full filenames (and directory paths) are the examples will only run if the drive on which Envisage 3D is installed is drive C:

Example 1: Basic Tweening

Demonstrates simple tweened animation with three models one moving between two positions and the other two rotating about a vertical axis through their centers.

The sphere that is moving up and down has a partially mirrored surface showing reflections of a ground plane.

The two models that are rotating have their rotation specified as an Internal rotation rather than being tweened.

Note the shadows cast on the ground plane.

Examine the Face Attributes of the sphere (click on Get for Reflectivity in the Attributes dialog) to see the mirror setting and the smoothing applied to the sphere but not the other models.

Example 2: Path animation with acceleration

Demonstrates a model following a path. Not only is the model following a path but a rotation timeline instructs the model to point in the direction it is moving.

The Path Velocity Editor was used to instruct the model to accelerate as it proceeds along the path.

Look at the keyframe/Time Lines list. You will see several short timelines on the Rotation row for the Model actor.

Each timeline has a keyframe at its end.

The reason for entering several short timelines is that the rotation of the model can be tweened between the settings made at each keyframe.

It is important to appreciate that even though the rotation is set to point in the direction of motion the rotation of the model about an axis (in the direction of motion) is still free, and may be changed.

We can use this fact to simulate aircraft banking as it follows the path.

Example 3: 'Copter attack!

A model moving along a path, this time the model is in two parts, that is, two actors represent the model. We do this because we want to animate a helicopter flying along the path with its rotor blade rotating.

If we model the body of the helicopter and its rotor as separate parts we can give the rotor blade internal rotation as it travels along the path.

We must be careful to arrange that both models have a center point that is exactly at the same place. It must also be at the center of the rotor, otherwise it will rotate in an eccentric manner!

The body and rotor is built as a single model and then the rotor and body were saved in separate files.

Check out the model files, especially the location of the center point.

Example 4: The spotlight is on

A static scene illustrating shaders and the use of a shadow casting spotlight.

Examine the placement of the shader axis in the model and the settings for the scaling of the spotlight.

Note that the shadows cast from spotlights are full shadows, they fall on all models (except CSGs) but require quite a bit of extra memory.

Example 5: Ripples in time

This 20 frame animation illustrates the ripples shader. Check out the scaling on the ground and the placement of the light.

The light must be high above the ground to produce the specular highlights on the wave crests.

Example 6: What is a CSG?

An animation using the CSG shapes. Note the use of a subtractive addition.

CSGs are always represented by bounding boxes in the Animation modules Window Box.

Example 7: Wheels within wheels

An animation demonstrating hierarchical motion. A model is following a path which itself is

following a path!

Example 8: Follow the leader!

A train of rockets following a path. A single model is used four times. The first Follows the path, the second Follows On from the first, the third Follows On from the second and the fourth Follows On from the third. All of the models are instructed to rotate to the path direction.

Check out the timelines for position and rotation.

Note that a mapped sky is in used. This means that the background moves as the Camera looks in different directions. Background movement is a major source of the visual clues that let an observer decide whether the Camera is panning or the models are moving.

Example 9: Vacation by the sea

A single frame illustrating the Ocean shader on the ground and the Cloud shader used to set up an algorithmically generated cloudy sky.

Check the position and size of the ground position axis.

Note that the cloud shader is applied to a hemispherical model that is enlarged to enclose all the other actors (including the light).

The shader axes in the cloud model set the size and orientation of the clouds.

The shader settings for the cloud shader have special significance.

The Tr./Bu./Rf% setting adjusts the "blusteryness" of the clouds and the Brilliance setting the differential size of the clouds. The differential size is used to give the clouds the appearance of bending towards the horizon. Clouds are a fractal shaded and a good looking shader is easily found with a couple of trials.

Examine (using Get) the settings in the Face Shader dialog.

Note that fractal shaders are quite slow to compute.