This project illustrates the Auto Bank constraint feature of Universe 5.0.

The Auto Bank constraint allows an object's orientation to be automatically calculated as it is moving along a curved path. An ideal application of this is to use the Auto Bank constraint to animate the pitch and yaw of a camera as it goes along the path of a roller coaster. That's what this project illustrates.

Open the AutoBankProject.prj project file.

This is a very simple project. There is a single polygon plane that acts as the ground, a whole bunch of cones that stand in for trees.

The Camera is animated in 10 keyframes moving around an imaginary course. There is an object called "Target Placeholder". This object acts as the constraint object for the Camera's Auto Bank. Remember that most of the constraint-types require that one object be constrained to another. Since we are applying Auto Bank to the Camera we must pick and object that is static in the scene to act as a placeholder for the Auto Bank target. The parameters of this placeholder really aren't used. The object is just a stand-in to hold the weight data in case we blend the Auto Bank constraint with more than one target.

After the Camera was animated around the track, Auto Bank was selected from the Constraint Menu. The "Target Placeholder" object was clicked on and then the cancel button was clicked.

Click on the Preview button in the top view window. Notice how the Camera's reference follows the path. Stop the preview.

Select the Camera and open the Constraint Editor window from the Constraint menu. Notice that the Roll checkbox is turned off in in the Reference section in the lower right. We did this because we don't want the Camera to roll along its length. If it did, it would appear that the imaginary roller coaster car was rolling from side to side - one set of wheels coming off the track, then the other.

Turn on the Roll checkbox and click the Preview button in the Top view again. Notice how the Camera body rolls in a rather scary manner now. Stop the preview.

Matt Hoffman
matthoff@electricimage.com