

BILLBOARDS (AKA SPRITES OR FACERS)

Objective:

To use a 2D texture on a flattened object to give the illusion of it being a 3D object because it always faces the viewer.

Necessary Files:

- ★ Texture for your Billboard object. Usually a PNG with a transparent background, but could be any usable image in GIF, JPG, or PNG graphic format.

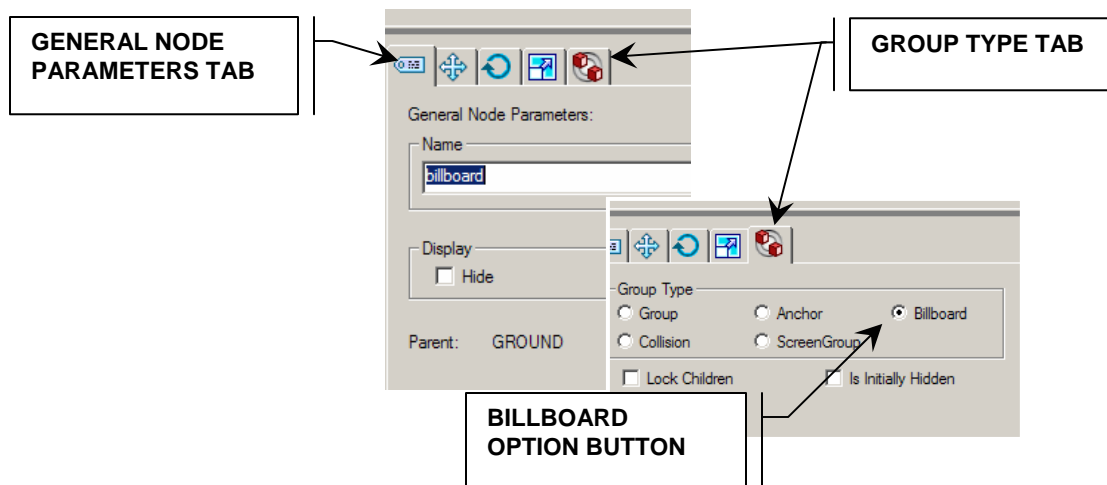
NOTE: GIFs may NOT show correctly in the View windows of Flux Studio but WILL work correctly in the viewer. You will need to export the file as a WRL to see it correctly. JPGs do not support transparency.

Actions:

1. Use Top View
2. Place a box of default size in the window and zero it for all 3 axes.
3. **Create > Create Group**
4. Click in the Top View window to place the group in the scene and zero it also for all 3 axes.

NOTE: Zeroing first isn't absolutely necessary but in the long run it does help to keep track of where things start and helps to keep things aligned. It's a good habit to get into.

5. In Tree Window drag the box into the new group.
6. Click on the "Group: Group1" icon in the Tree Window to open the Group Properties window.
7. In the "General Node Parameters" tab change the name of the group to "billboard".
8. In the "Group Type Tab" select the option button for "Billboard".



NOTE: If you have not already saved this Flux file please do so now. Then export the VRML/X3D version to the folder where you will be using it. Since you are going to be setting up a relative path to your texture (image) files the program needs to know where the original WRL file is located in order to calculate the proper path to find the texture files. Get in the habit of saving your files as soon as you open them.

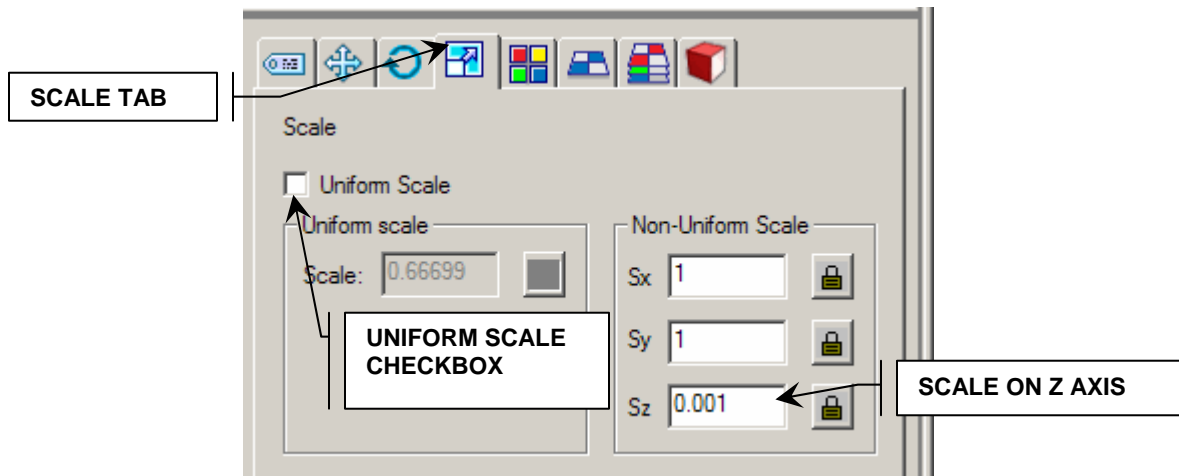
I recommend creating a subfolder from your main folder and naming it "images". Put all textures and images in this folder. Your default path to your textures/images will be "images/filename.gif" with "filename.gif" being the name of the file you want to use. Again this is not absolutely necessary but does constitute "good web housekeeping".

The idea behind creating a Billboard object is that you can use a 2D image and it will appear to be a whole 3D object because you will never see anything but the front of it. It will always face you (so sometimes it's referred to as a "facer"). This comes in especially handy for creating trees or other objects that you want a lot of in your scene. The more true3D objects you have in a scene the larger the file size will be. The larger the file size the longer it will take your visitor to load and enjoy your work. If it takes too long they won't stick around for the show. So using billboards is a good way to have lots of objects that don't take up a lot of file size.

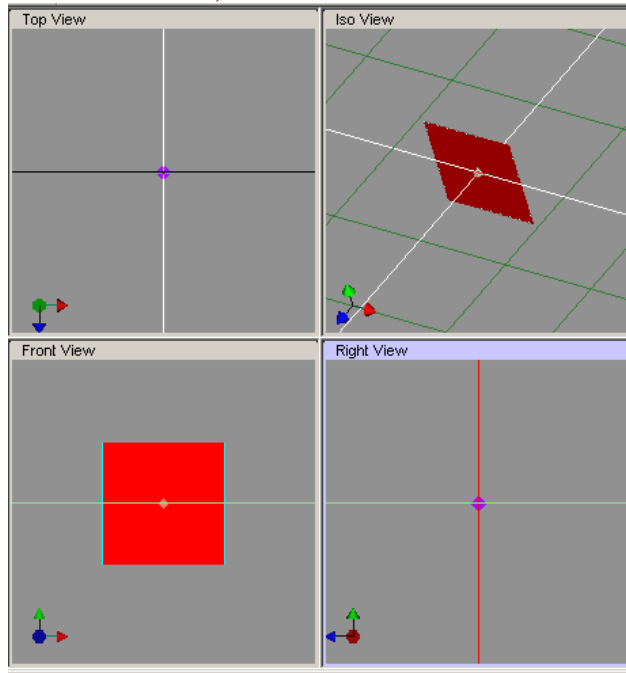
You can check out an example of using Billboards for trees in my Haunted Halloween World (<http://www.3dhalloweenworld.com>).

So we will assume that you have some texture you'd like to use for your billboard.

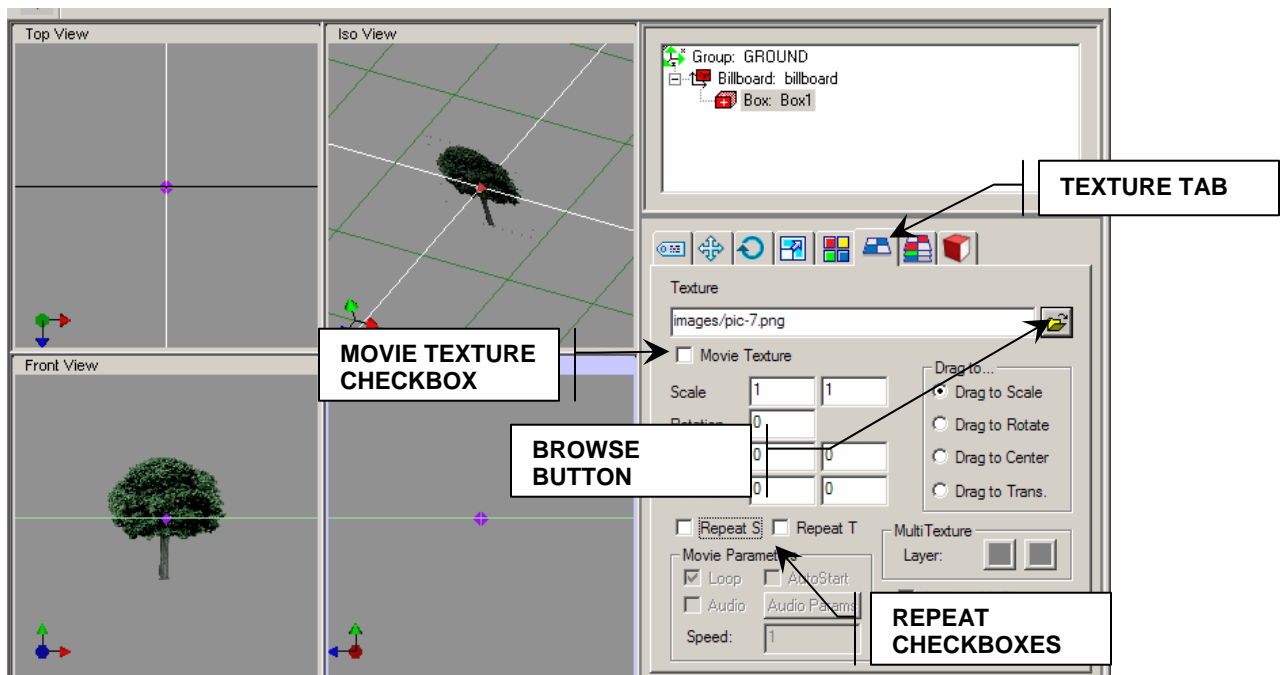
9. Select the box in the Tree Window to open its properties window.
10. In the "Scale" tab deselect the **Uniform Scale** checkbox.
11. Scale the box along its Z axis to about .001 to make it very thin.



12. You will have a thin square on which you can place your texture.
13. Your View windows should now look like this.



14. In the box's "Texture" tab click on the Browse button to locate and place your texture.
15. Deselect the "Repeat S" and "Repeat T" checkboxes.
16. If you are using an animated GIF (only GIF files support animation AND transparency) be sure to select the "Movie Texture" checkbox so that it starts its animation when the scene loads (I have not selected it here because this is not an animated texture).



NOTE: You will now see a very flat object in your View windows with your texture on it. If you have used a GIF file for your image it may not show correctly in the View windows but should still work fine once it's exported.

17. To check your billboard go to **Publish > Preview in Flux** to open the preview window.

NOTE: It's kind of difficult to tell if it's really working because you have no reference point. If you go back to the view window and drop in a box or another object and place it beside your billboard and then preview again you will be able to rotate around it and see the billboard effect.

You can export the file as a VRML (*.WRL) file if you intend to use it in an online world or as an X3D file.

Summary:

1. Create an object that is scaled very thin.
2. Place it in a group node that is designated as a Billboard.
3. Add a texture.
4. Export to your preferred file type.

Words to Know:

- ★ **Absolute Location** – a reference to a file that includes the complete URL where it is located. This reference always begins with "http://".
- ★ **Option button** – a round clickable area that lets the user indicate one choice among all the choices given.
- ★ **Relative Reference** - a reference to a file that is located in the same or a nearby folder to the file with the link. This type of reference usually only includes the name of the file (filename.html) or the name of the file preceded by the nearby folder (thisfolder/filename.html).
- ★ **Zeroing** – to set an object's XYZ axes to zero in the scene.

