Getting started with bone animation

1. Firstly, create an object to use as a character. Next, select the Front view and select all vertices in Edit mode. Press the [W] key and select Subdivide. Keep using the option until there are a good amount of vertices in the shape. These vertices mark the position where the shape deforms and bends.

2. Use the Toolbox to add an Armature and add one for each section of the shape. Press escape to stop adding them. Select the shape, Hold [Shift] and select the Armatures. Press [Ctrl]+[P], select ‘Use Armature’ and then select ‘Create From Closest Bones’. Now the armatures will deform the vertices closest to the bones when they move.

3. To move the character, enter Pose Mode by selecting the armatures, right-clicking them, and pressing [Ctrl]+[Tab]. The armatures will now go blue. You can select each individual armature by right-clicking the relevant bone, and you can use the normal key commands such as Move, Scale, and Rotate to move the bone.

In the final part of this illuminating Blender Masterclass, Jono Bacon applies textures and substance to his creations and brings them to life.
direction. Remember that the texture is applied differently to different objects. An example of this is the way in which the texture wraps around the marble UVSphere that we just created. You’ll see the texture would be applied differently on a cube, for example one copy per face. Other important settings in this group include the MinX/Y and MaxX/Y buttons, used for adjusting clamping regions.

Now that we know how to add a basic texture, continue to add different textures for the other objects in the scene, including the flat plane. Consider sensible textures for your objects to add realism, such as grass for the plane. Adjust the texture settings for each object until perfect.

Basic animation

Now we have covered texturing, we can take a look at some basic animation. Animation in Blender comprises of a few different forms including keyframe and armature (bone) based animation. Keyframe animation is where you highlight specific points where you would like the scene to be animated. Blender will then generate the animation between those points. We’ll first try this by animating some of our objects.

Firstly, select the UVSphere, and look on the same bar as the main buttons. You’ll see a button with the number ‘1’ in it. This is the frame number button. Press the ‘T’ button and select LockSize. This will remember the location, rotation, and size of the object at frame one. Now click on the right side of the frame button until it gets to ‘20’. Scale the object down and repeat the procedure with the ‘T’ key. Now move to frame 40. Move the UVSphere forward and scale it up slightly. Repeat the process and then your finished. Move your mouse over the Camera view and press [Alt]+[A] to preview the animation. To get a little more realism, press the [Z] key to turn on viewport shading. The entire animation can be replayed. Blender also has a powerful animation technique, this is only the beginning.

Animation technique

Although this is only the most basic of keyframing examples, it’s important to be aware of the flexibility of this simple technique. Remember that anything can be moved in the animation, and this specifically includes the Camera. The camera can be moved and floated over the scene, creating walkthrough type animation. Usually the best techniques combine good camera movement with object manipulation in the scene. It’s very rare that just one technique is used, and as you’d expect, a combination of techniques achieves better results.

One other thing to be careful of is the size of your animation. It’s best to render at the Preview size (in the Display buttons while composing the scene). Rendering any larger than this will increase the render time substantially. It’s also best to use Preview as the size. When you’re happy with your animation, you can move up to a larger size for the final version. PCP

Moving on up

Add more strings to your Blender bow and take aim at the future of 3D modelling

In this short series of Blender articles, we have discussed the basics of Blender. However, there are many other concepts to learn. One major area to cover is Particle Systems. These systems are often used to create effects that are difficult to model, such as fire, wind and dust. Particle systems work by setting a shape (such as the default plane) as an emitter. With the Animation Buttons, you can then click on the Effect button and select Particle from the drop-down box. A number of other buttons will then appear to configure the effect, and [Alt]+[A] will preview the effect in the 3D views. Specific shapes can be added as particles if necessary. Other useful concepts include advanced modelling techniques. We haven’t had space to cover features such as spin modelling for creating lathed type objects, bezier curves for creating cross sections that can be extruded, mesh editing tools and other concepts. There are many online tutorials that cover these advanced modelling techniques.

Although we have covered basic animation, this is only the beginning of Blender’s animation power and prowess. Graphs, actions and other sequences can also be finely tuned and replayed. Blender also has a powerful Python scripting engine, and virtually everything in Blender can be accessed and modified in code. The scripting engine comes into great use in animated sequences, and particularly in the game engine when creating conditions and events.

Blender is a powerful piece of software, and there are many aspects to its functionality. Although it can do many things, there’s information and tutorials on the Internet that help you learn these concepts. Generally, a search on Google with the subject you wish to learn reaps the best results, but there are also good links on the Blender site at: www.blender.org/7.

GOING FURTHER

There are a variety of resources on the Internet available for furthering your Blender experience, including the recently added manual, which is freely available. Most of these resources are at www.blender.org. Another useful resource is the discussion forums at www.elysium.net where a lot of hardcore Blenderheads hang out.