

V-RAY FOR 3DS MAX: DISPLACEMENT

This document gives a sample lesson plan for involving the V-Ray Displacement Modifier module into a lecture

Lecture

- You may begin with some images with finely detailed geometry. Explain how modeling very fine detail can be very time consuming and how the same effect can be achieved using displacement. Some examples may include:
 - Eroded or cracked concrete, gravel or other rough surfaces
 - Wood bark
- Explain the difference between bump and displacement mapping
 - Bump mapping is a shading effect – it doesn't affect the geometry. Instead it changes the normals of the surface so that it looks like there are bumps and bends.
 - Displacement creates actual geometry. The mesh is subdivided and each new face is displaced based on the texture. All the new geometry is generated during render times
- Explain the concept of Dynamic Geometry
 - Dynamic geometry is only kept in the RAM when it is being rendered.
 - If you are rendering with the Bucket Image sampler only the parts of the geometry currently being rendered by the buckets needs to be in the memory
 - Displacement created with the V-Ray Displacement Modifier is considered to be dynamic geometry
- Discuss the settings of the V-Ray Displacement Modifier
 - 2D mapping, 3D mapping and Subdivision modes
 - Texture and blurring the texture
 - Edge length, Max subdivs and texture Resolution to control the quality
 - Amount, Shift and Water level
 - Texture boundaries for working with high dynamic range textures

Demonstration

- In this cycle, you can use the provided scene and handout to demonstrate how to set up the V-Ray Displacement Mod

Activity

- In this cycle, you are going to let your students experiment with the provided scene. You may want to give them the provided handout to use as a guideline