# Normal mapping

This tutorial is for intermediate to advance users.

It has been posted to 3dimensions site by a user.

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Easy Normal Mapping

Introduction

Hi everyboby.

Normal bump map in 3ds max is a powerful tool. It allows to have the same detail level of the high poly modelling with low poly objects

Unfortunately, searching the web I've just found technical tutorials. So I decided to write an easy tutorial by myself in the hope it can be useful.

Preparing

Download the model that we will use. It's free and I've used this because it has +32000 polygons and it is ideal as exemple

budha.zip Thanks to WWW.KONTUR.RO

Start Max and merge just the VIFS01 object. Rename it Buddha01, delete the UVW modifier rotate and assign it a default material.

Modelling

Clone it (copy not instance) and hide Buddha01 then select 02 and apply a multires modifier.

Click Generate and in vert percent type 5 and hit return. The model is about the same but the number of polygons is just 5%.

Collapse the stack and transform in poly.

Apply a unwrap UVW mod. click edit, go in sub-object face and select'em all.

In mapping menu select flatten mapping an hit OK.

Unhide 01, select 02 and open Render to texture dialog
Enable projection mapping, hit pick, select 01 and choose -no projection modifier- (we already have UVW).

Hit Options, then setup. The render dialog will open up, in global supersampling check enable global supersampler and select max 2.5 star

Go to the output rollout, hit Add and select NormalsMap.

Choose TGA as output and then select a 512x512 map size.

If you hit Render that's what you get.

The TGA normal map instead is something like this.

Close the render to texture dialog, go in front view and put the two objects side by side

If you make a render the objects still have a pretty different resolution.

So open the material editor, select a free slot and to the bump map (put the spinner to 100) assign a normal bump.

In the first slot put a bitmap and then the TGA we just created.

Assign the material to the Buddha02.

Make another render and...

Incredible! They almost have the same details.

You can easily understand why this technique is so important in game programming and in many other fields.

If you want an even better level of details you can try to assign an higher value to multires and/or play with push amount in projection modifier.

That's all.

Best Regards