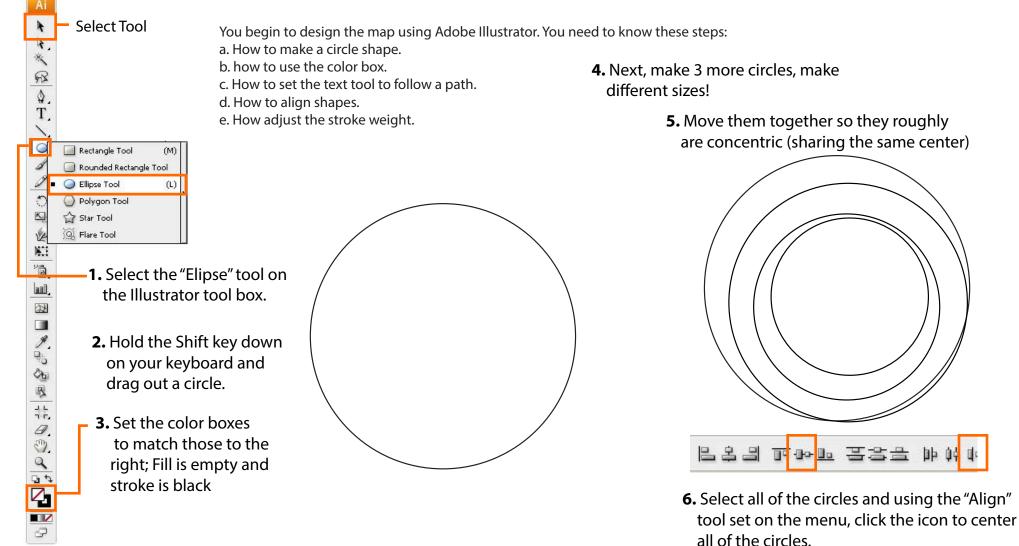
Page 1

Many games have characters who wear very detailed armor or finely embossed clothing. These decorative flourishes would require too many polygons if they were modeled, so "Normal Maps" are used in their place. A normal map is a type of bump map for Video Games.

You can make normal maps several ways.In this project you will make a simple normal map for a round warrior shield from a bitmap image you make using PhotoShop and Illustrator. (see the "3D Max Method" on the class web site.)



Creating Detailed Armor for Characters Using Bitmaps

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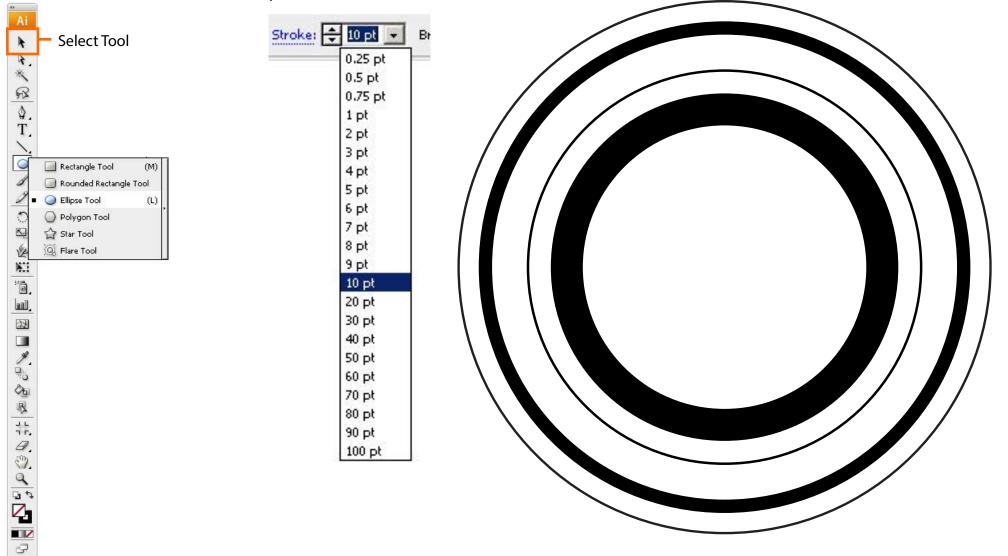
Page 2

Now that you have the circles aligned, we will vary the thickness (weight) of the lines.

7. Select one of the circles.

8. Drop the Stroke menu and select 10.

3D Video Games: Characters & FX



Creating Detailed Armor for Characters 3D VIDEO GAMES: CHARACTERS & FX Using Bitmaps

Page 3

Next you will select one of the circle and place a decorative border onto it.

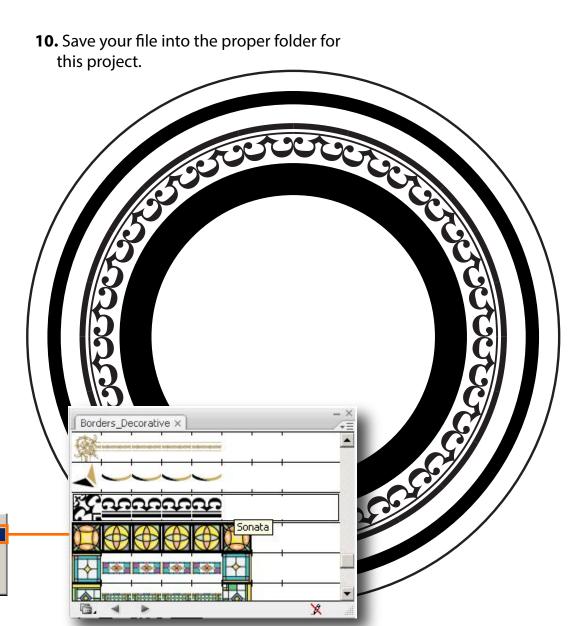
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ative

9. Locate the "Borders_Decorative and choose a boarder design.

New Window			
Cascade			
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Workspace	•		
Adobe Labs	*		
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🗸 Align	Shift+F7		
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Attributes	Ctrl+F11		
Brushes	F5		
Color	F6		
Color Guide	Shift+F3		
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Flattener Preview			
Gradient	Ctrl+F9		
Graphic Styles	Shift+F5		
Info	Ctrl+F8		
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		the second s	Borders_Lines

Career Technical Education



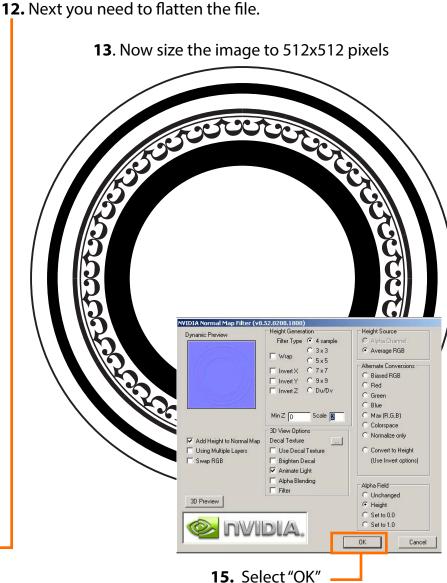
You will now open the sheild design in Adobe PhotoShop and convert it into a Normal Map.

11. On the file menu select "Open" and find your Adobe Illustraor sheild design and open it.

3D Video Games: Characters & FX

ayer Select Filter Ana	alysis	View	Wi
New			•
Duplicate Layer			
Delete			+
Layer Properties			
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New Fill Layer			
New Adjustment Layer			۲
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Layer Content Options			
Layer Mask			
Vector Mask			+
Create Clipping Mask	Alt+	Ctrl+G	
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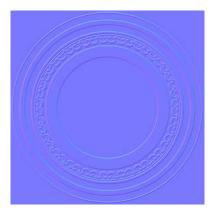
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14. Open the NVidia "NormalMapFilter".

Page 4

lter Analysis View	w Window Help	
Last Filter	Ctrl+F	ł.
Convert for Smart I	Filters	
Extract	Alt+Ctrl+X	
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Liquify	Shift+Ctrl+X	
Pattern Maker	Alt+Shift+Ctrl+X	ļ
Vanishing Point	Alt+Ctrl+V	
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Blur	•	1
Brush Strokes	•	
Distort	+	
Noise	+	
Pixelate	•	1
Render	•	
Sharpen	•	
Sketch	•	
Stylize	•	
Texture	•	
Video	+	
Other	•	
Digimarc	•	
NVIDIA Tools	- D	NormalMapFilter.



16. The design wil look something like this. Save this as Targa file.

Open 3D Max and create a flattened Hemisphere to use as a sheild

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16. Open the "Material Editor" and place the "Targa" sheild design into the Bump Map slot.

AB· S & & ? . Autodesk 3ds Max 2010 Educational - Not for Commercial Use Sheild.max Type a keyword or phrase - 🗗 X 6 Edit Tools Group MAXScript Help RealFlov Customize 🖲 Material Editor - Material #28 - 🗆 × % € All Material Navigation Options Utilities { 1/2 Create Selection Se 💌 3 61 Vi 🗗 🗘 + 2品0回1 Sphere01 Modifier List 0 Editable M d . 不 2777 N 00 9 129 2 12 X 12 8 2 12 10 12 1 8 | 1 | 😽 ð | 🔜 / Material #28 -12 Standard -D Ambient Color 0 : Selection P 0 Diffuse 🦪 🖌 📕 💋 Opacity: 100 \$ 4 By Vertex Specular Highlights N. ☐ Ignore Backfacing Specular Level: 0 \$ Ignore Visible Edges 唐 Glossiness: 10 \$ Planar Thresh: 45.0 200 Soften: 0.1 \$ Scale: 20.0 Delete Isolated Vertices Extended Parameters Ż Hide Unhide All The second Named Selections: Amount Map Ambient Color . . 100 💲 -8 Whole Object Selected Diffuse Color . . . 100 💲 None 250 Specular Color , 100 2 None Soft Selection ular Level . 100 💲 None Edit Geometry 100 韋 None Ð Self-Illumination . 100 \$ None Attach Attach List 100 \$ Onacity None -00 100 + None 30 \$ #13 (Sheild_Normal_Map.tga) (M) Reflection 100 🛟 None Refraction 100 🗘 None Vormal: @ Group C Local Displacement . . 100 😫 None 6 100 2 100 - Intel Solit 100 💲 None 0 / 100 Refine Ends 100 💲 Q 70 75 95 90 50 65 80 55 85 100 🖰 🖸 x: 1 Object Selected Z: Grid = 10.0 Auto Key Selected 🕄 🔜 ⊳ 🖑 🔈 🕓 Welcome to M Click or click-and-drag to select objects Add Time Ta Set Key Key Filters

17. Export the file into UDK.