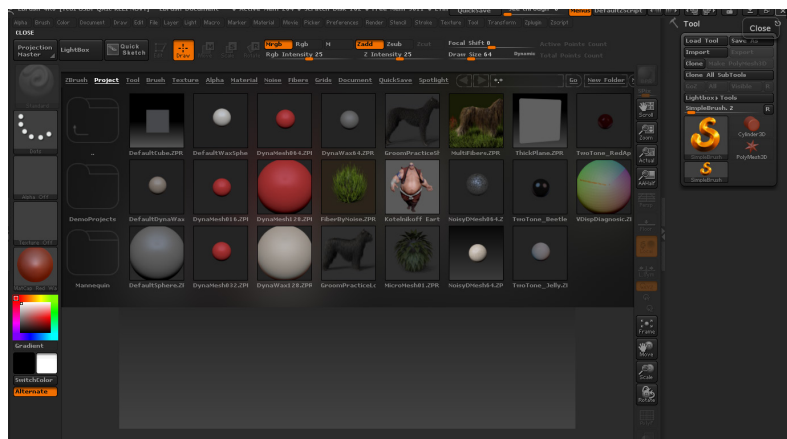
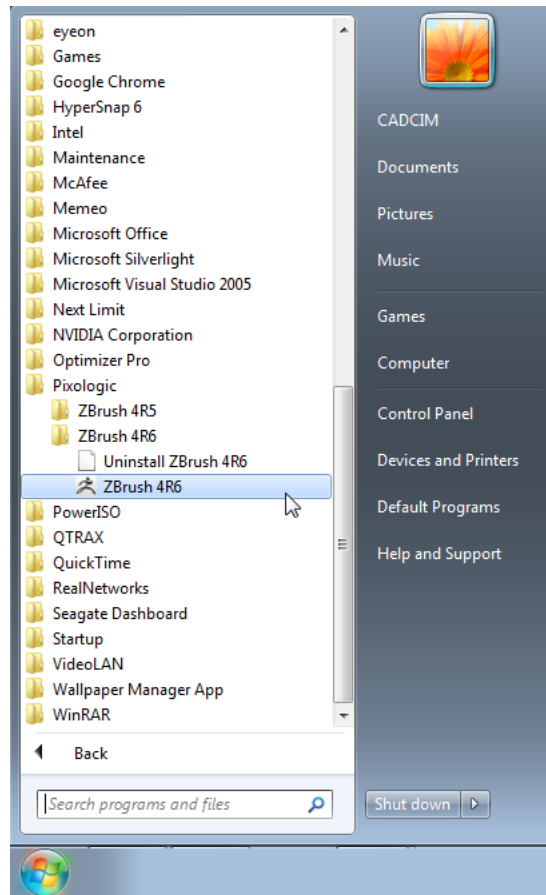


# Chapter 1

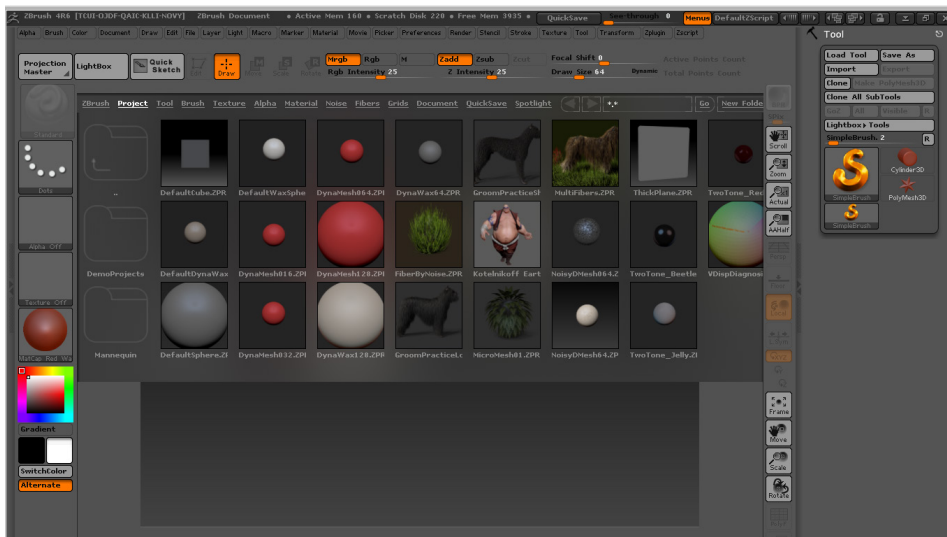
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## Exploring ZBrush Interface





*Figure 1-1 Starting Pixologic ZBrush 4R6 from the Start menu*



*Figure 1-2 The default ZBrush 4R6 interface*



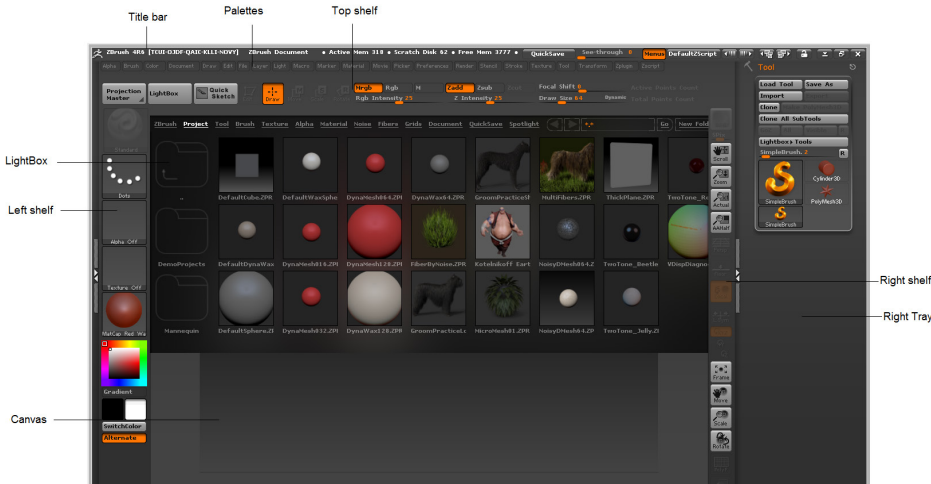


Figure 1-3 Various components of the ZBrush 4R6 interface displayed

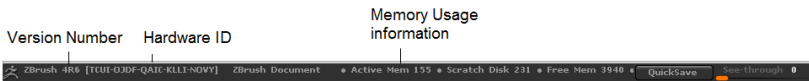


Figure 1-4 Partial view of the left side of the title bar

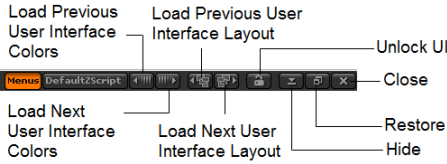


Figure 1-5 Partial view of the title bar (right side)

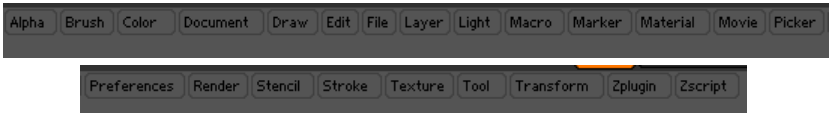


Figure 1-6 The palettes



Figure 1-7 The Make St button in the Transfer subpalette

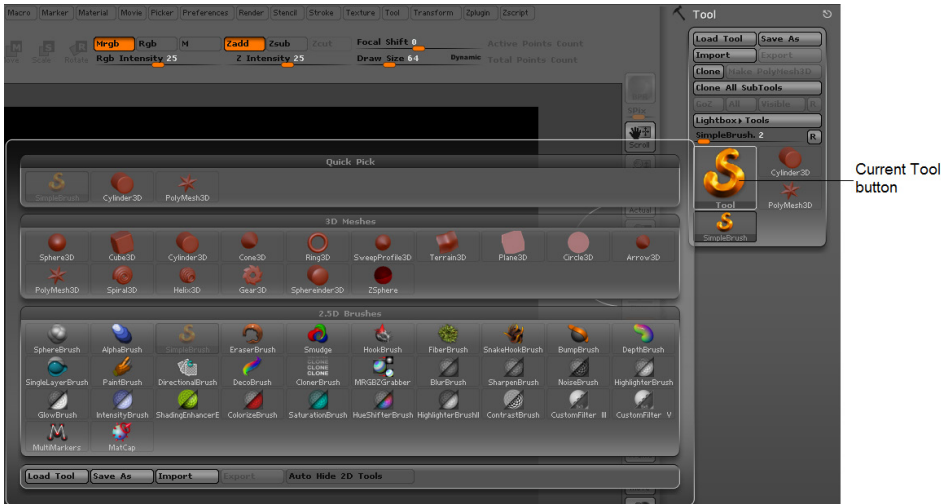


Figure 1-8 The flyout displayed on choosing the Current Tool button from the Tool palette



Figure 1-9 The top shelf

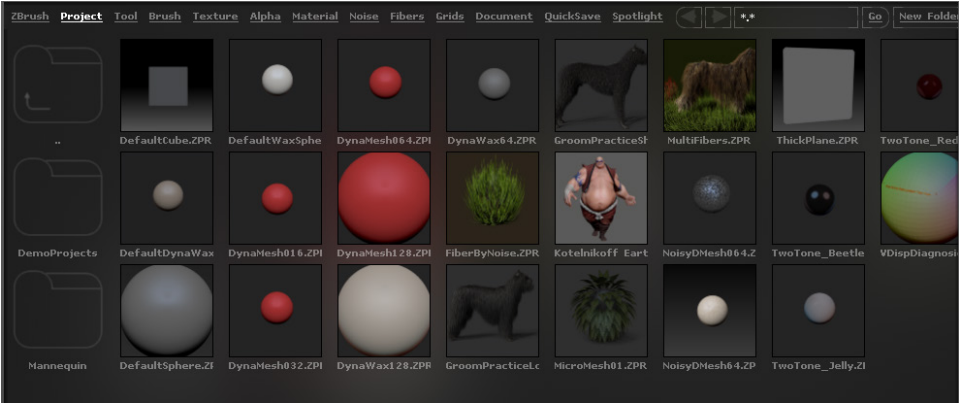


Figure 1-10 The LightBox browser

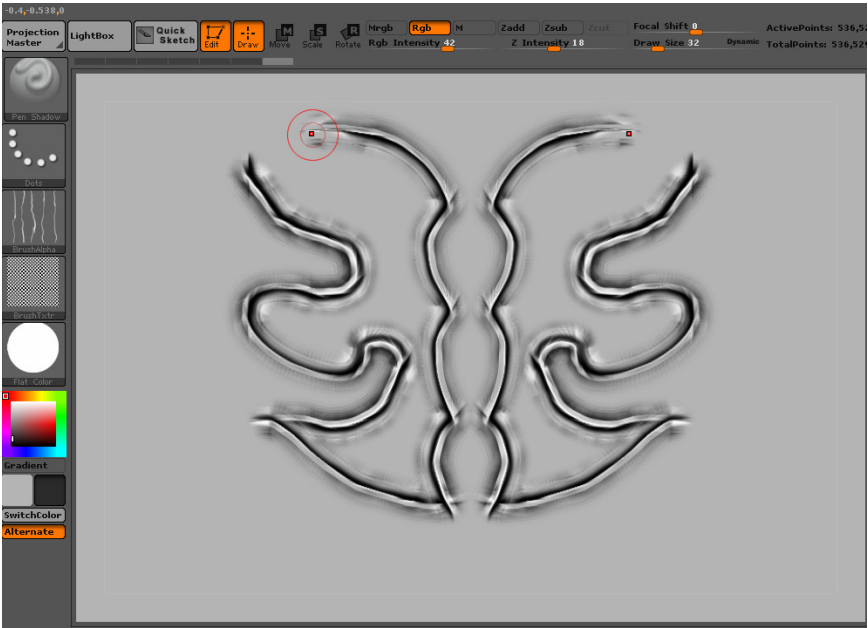
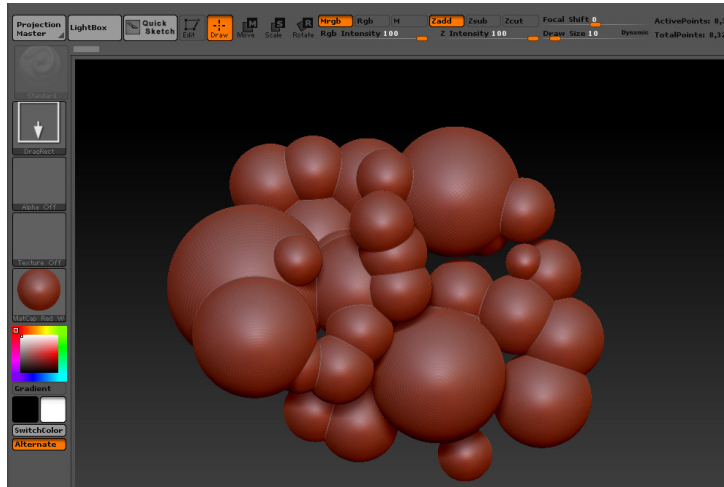
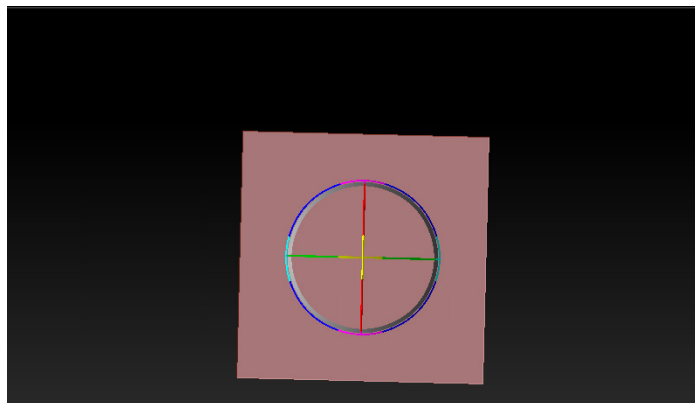


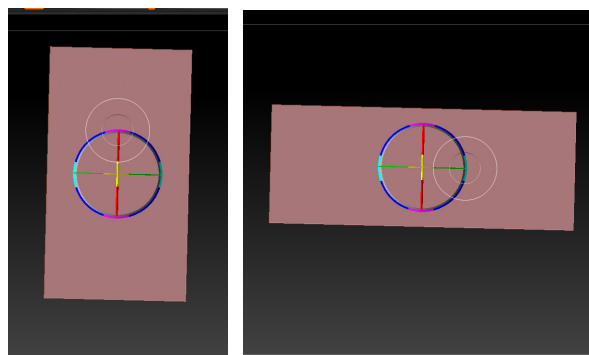
Figure 1-11 A symmetrical sketch created in the QuickSketch mode



*Figure 1-12 Copies of the 3D objects placed in the canvas*



*Figure 1-13 Gyro displayed on choosing the **Move** button*



*Figure 1-14 The vertical and horizontal scaling using gyro*

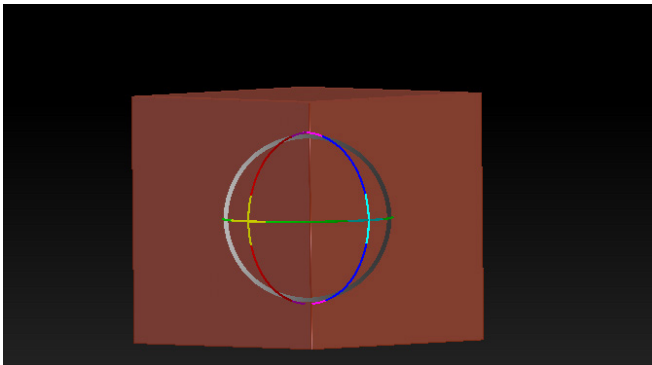


Figure 1-15 Rotating the object using gyro

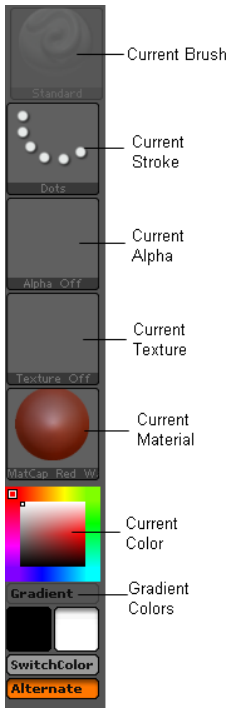


Figure 1-16 The left shelf



Figure 1-17 The flyout displayed on choosing the Current Brush button

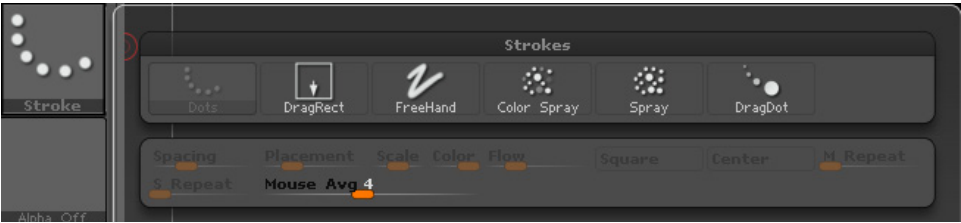


Figure 1-18 The flyout displayed on choosing the Current Stroke button



Figure 1-19 The flyout displayed on choosing the Current Alpha button



Figure 1-20 The flyout displayed on choosing the Current Texture button

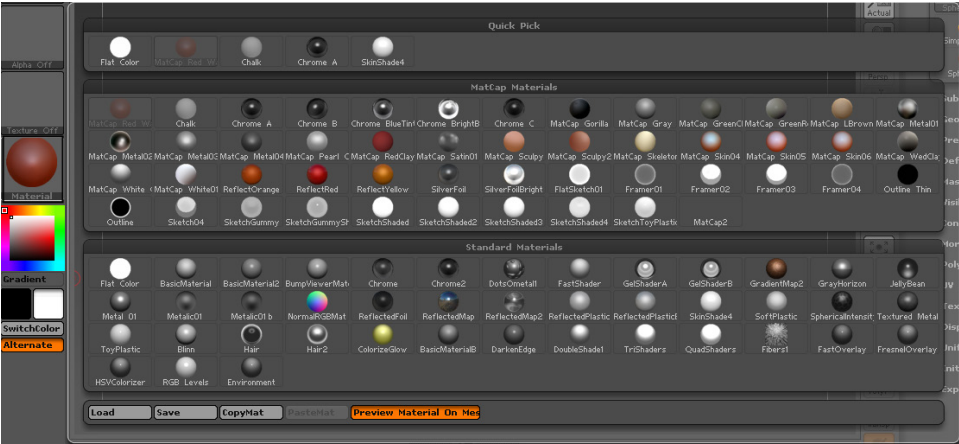


Figure 1-21 A flyout displayed on choosing the Current Material button

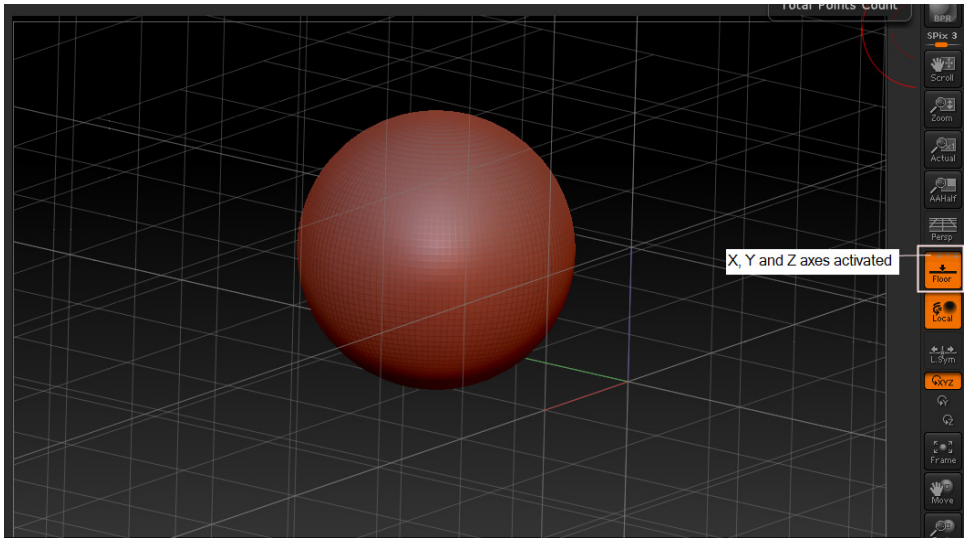


Figure 1-22 The RGB value of a color displayed

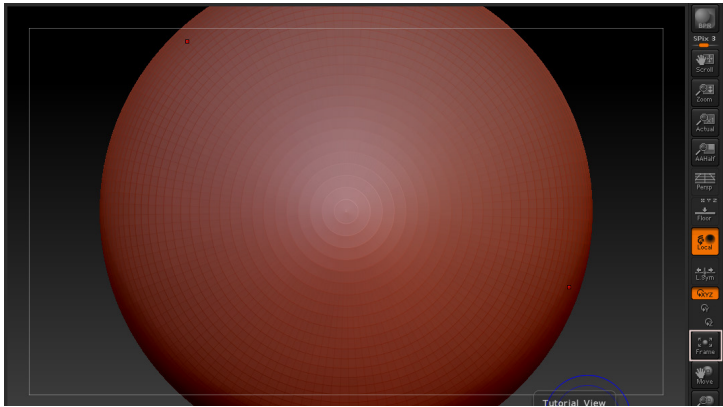


**Figure 1-23** *The right shelf*

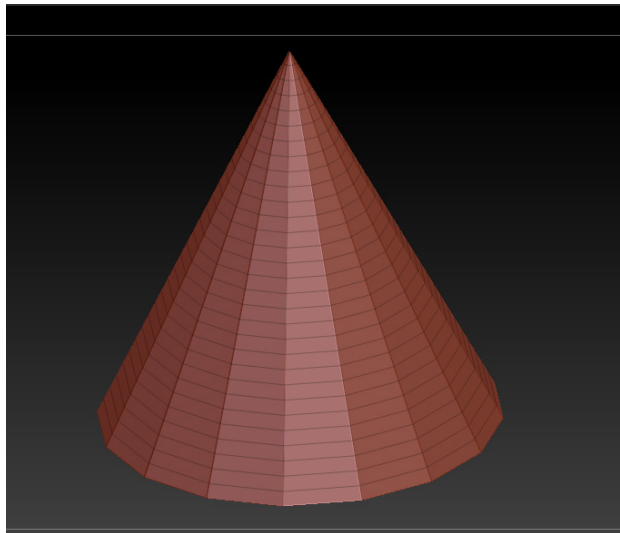




*Figure 1-24 Floor grid activated in all the axes*



*Figure 1-25 The object fitted into the canvas*



*Figure 1-26 The polygon edges of a 3D object*



*Figure 1-27 Transparency created in the subtools*



**Figure 1-28** Color in transparent subtools displayed



**Figure 1-29** The selected subtool displayed



**Figure 1-30** The subtools separated from the model



Figure 1-31 The *Save As* button in the *Tool* palette

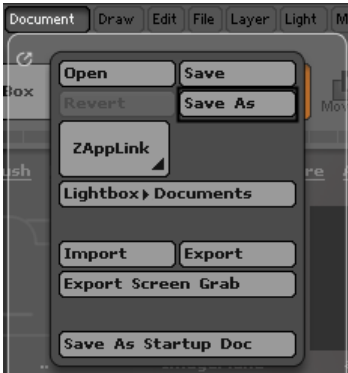


Figure 1-32 The *Save As* button in the *Document* palette



Figure 1-33 The *Save As* button in the *File* palette

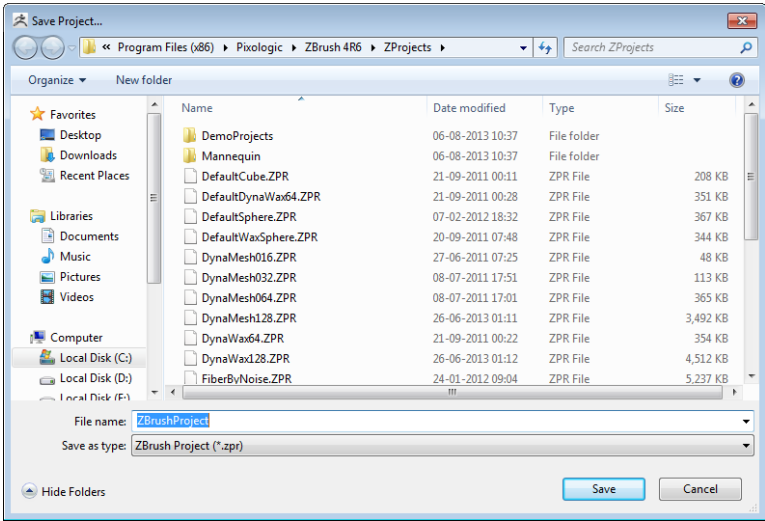


Figure 1-34 The *Save Project* dialog box

# ***Chapter 2***

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## ***Sculpting Brushes***





Figure 2-1 Partial view of the *Brush* palette in the top shelf



Figure 2-2 The brushes accessed from the left shelf on choosing the *Current Brush* button

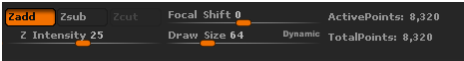
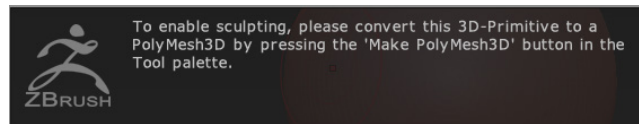
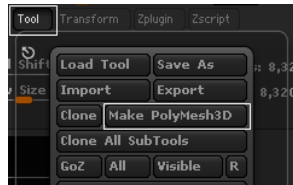


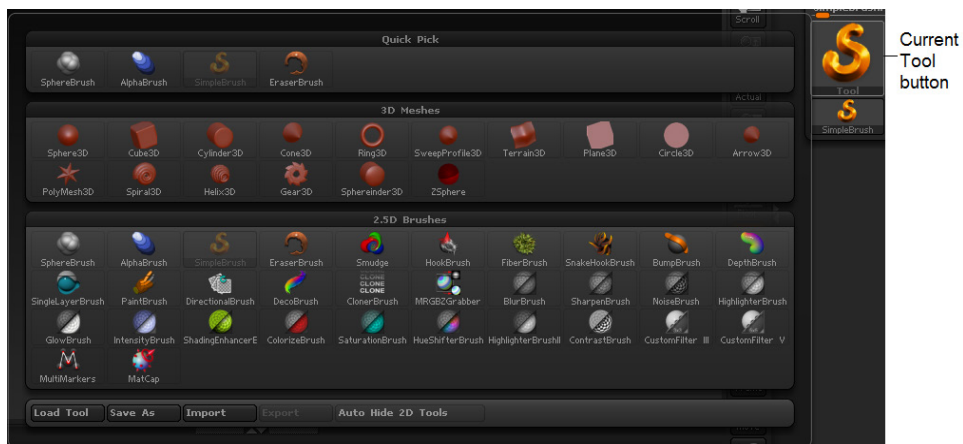
Figure 2-3 The different brush settings in the top shelf



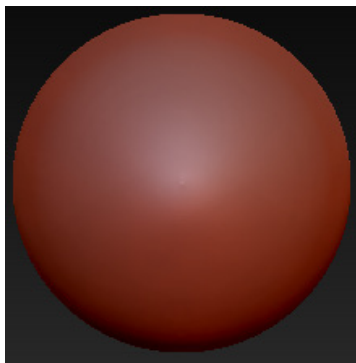
*Figure 2-4* Message box displayed on using a brush on a 3D primitive object



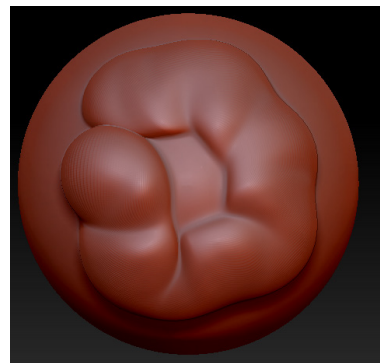
*Figure 2-5* The **Make PolyMesh3D** button in the **Tool** palette



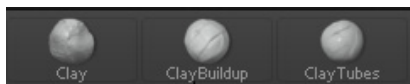
*Figure 2-6* Flyout displayed on choosing the **Current Tool** button



*Figure 2-7* The sphere smoothened



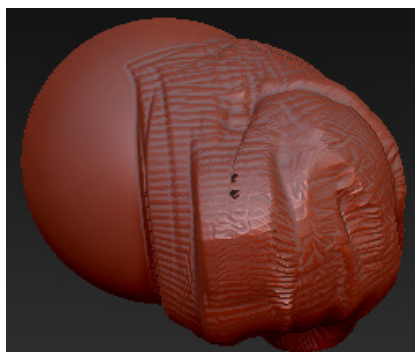
*Figure 2-8* Shape of the sphere modified using the **Blob** brush



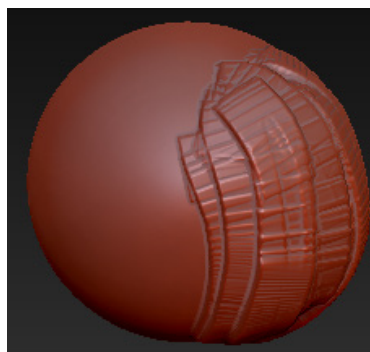
**Figure 2-9** The clay brushes



**Figure 2-10** Patterns created using different alphas



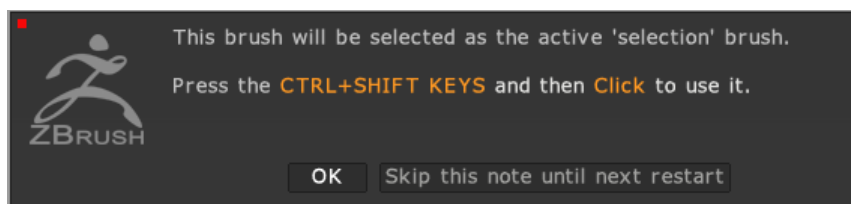
**Figure 2-11** Volume of the sphere increased using the **ClayBuildup** brush



**Figure 2-12** Volume of the sphere increased using the **ClayTubes** brush

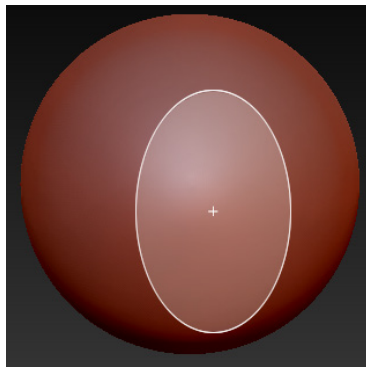


**Figure 2-13** The Clip brushes

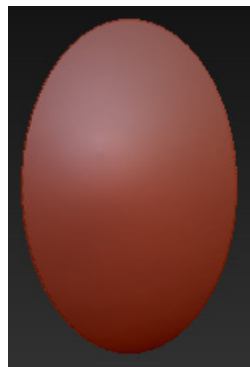


**Figure 2-14** The message box displayed on choosing the **ClipCircle** brush

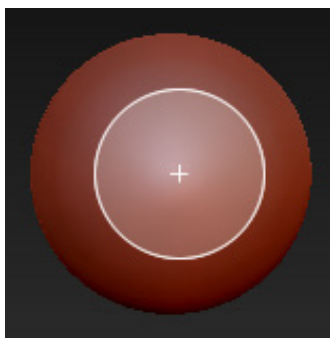




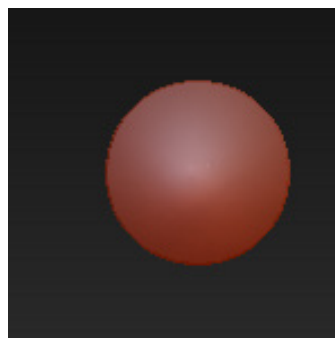
**Figure 2-15** *A elliptical marquee selection displayed*



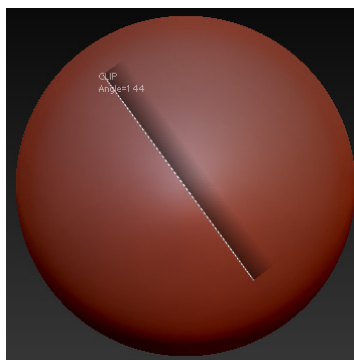
**Figure 2-16** *The shape of the sphere modified*



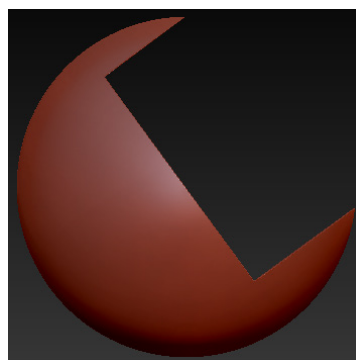
**Figure 2-17** *A circular marquee selection displayed*



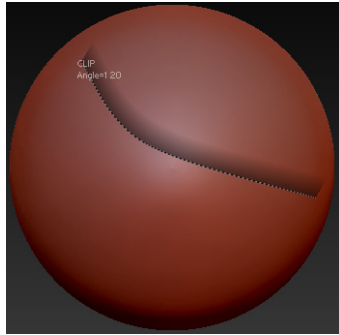
**Figure 2-18** *The shape of the sphere modified*



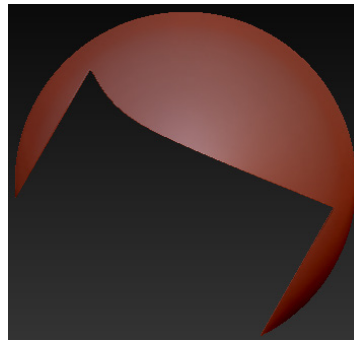
**Figure 2-19** *A straight line displayed on the surface of the sphere*



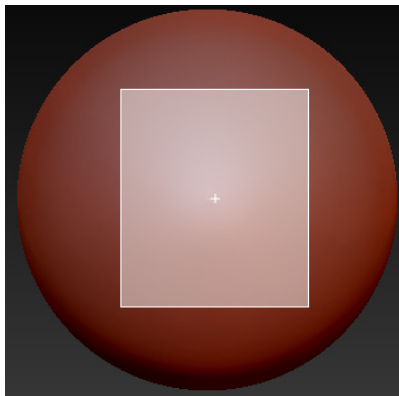
**Figure 2-20** *Shape modified by the ClipCurve brush*



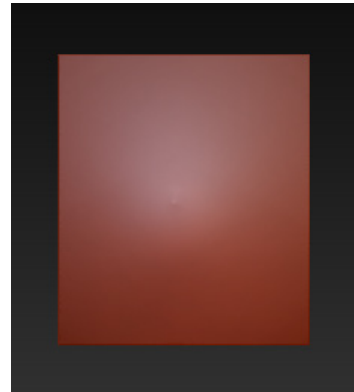
**Figure 2-21** A curved line displayed on the surface of the sphere



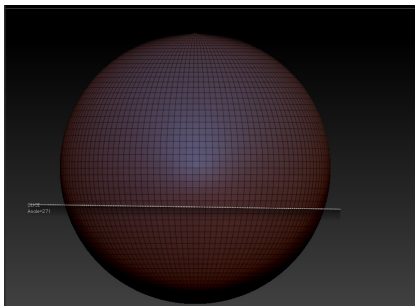
**Figure 2-22** Shape modified by using the *ClipCurve* brush along with *ALT*



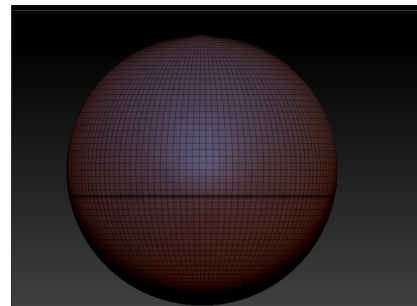
**Figure 2-23** A rectangular marquee selection displayed



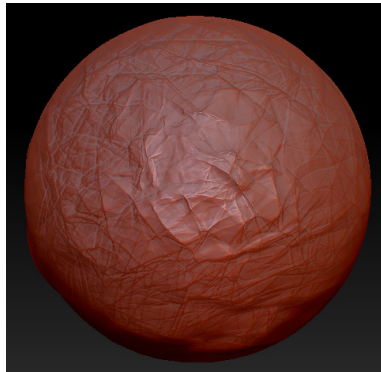
**Figure 2-24** The shape of the sphere modified



**Figure 2-25** A straight line with grey area



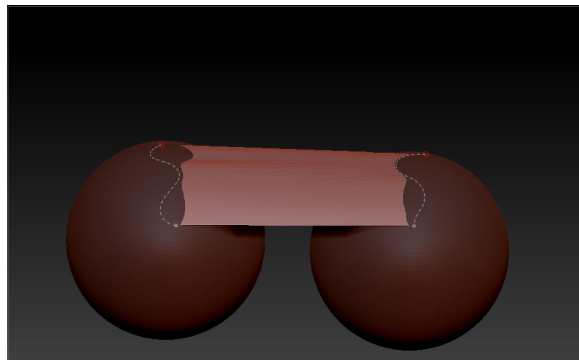
**Figure 2-26** The creased edge created on the sphere



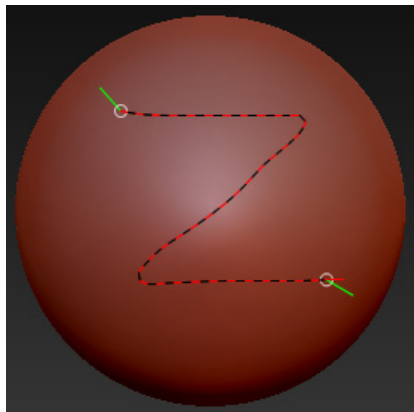
*Figure 2-27* A pattern created using the **Crumple** brush



*Figure 2-28* The **Curve** brushes



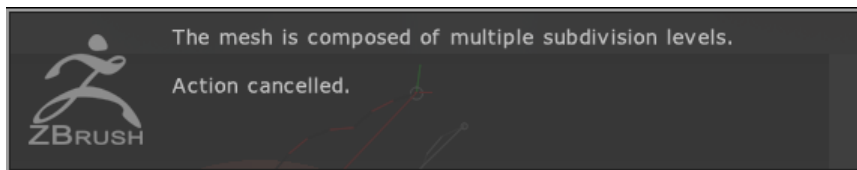
*Figure 2-29* The bridge geometry created between two curves



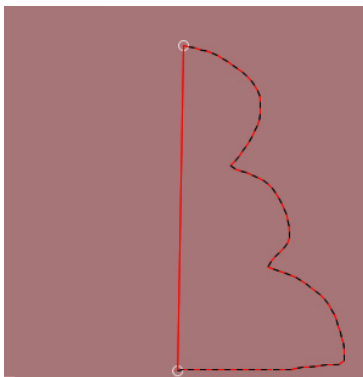
*Figure 2-30* A path created on the surface of the object



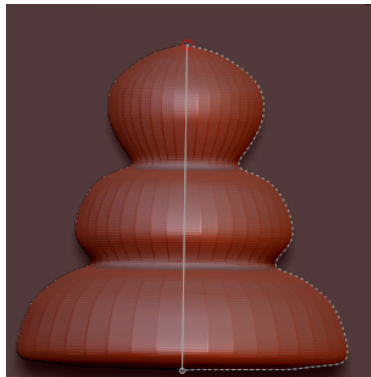
*Figure 2-31* Depth created along the path



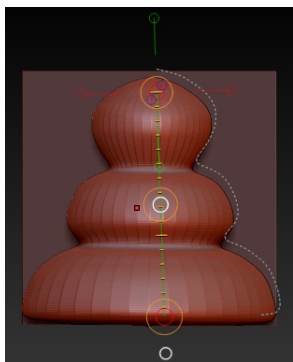
**Figure 2-32** The message box displayed on using the **CurveLathe** brush on subdivided mesh



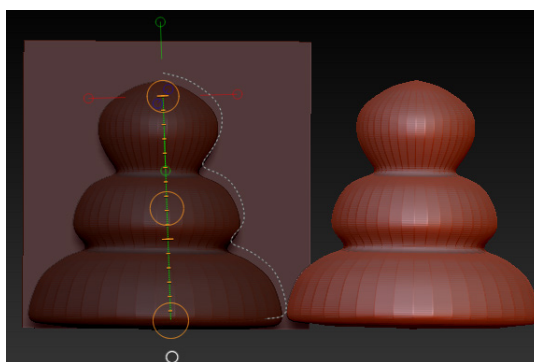
**Figure 2-33** A profile curve created on the surface of plane



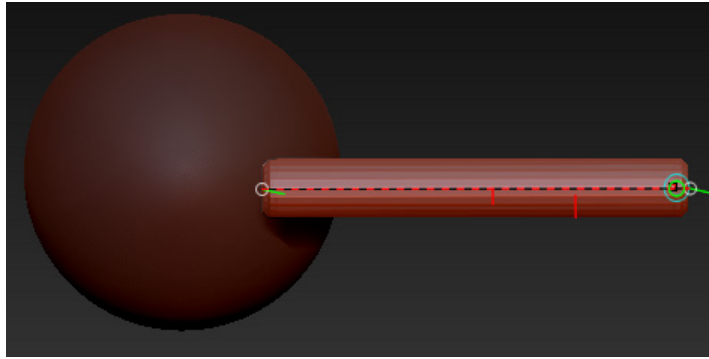
**Figure 2-34** A new mesh created along the profile curve



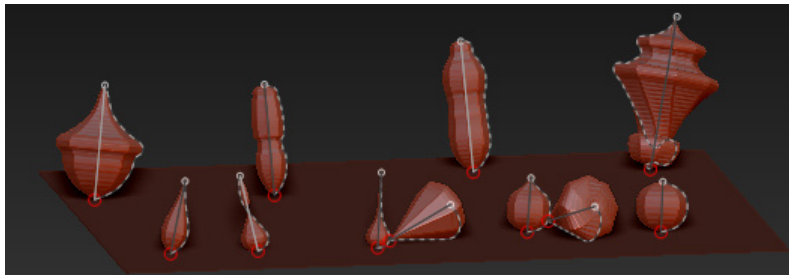
**Figure 2-35** A line with three circles displayed



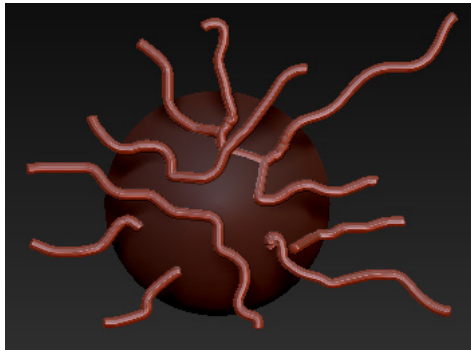
**Figure 2-36** The duplicate copy of the mesh created



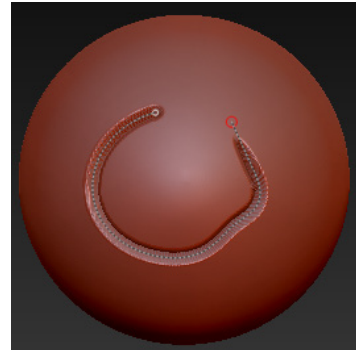
*Figure 2-37 A tube created along the straight line*



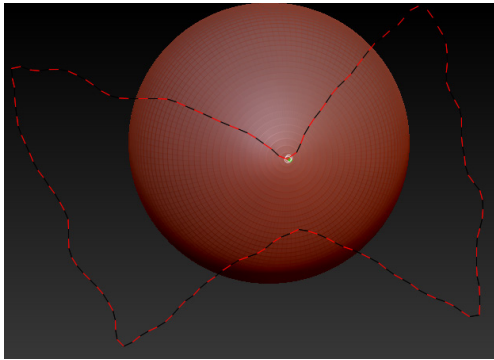
*Figure 2-38 Multiple shapes created on the surface of a plane*



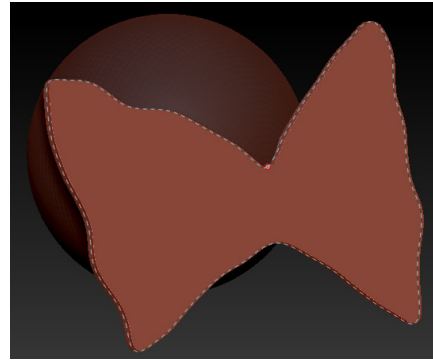
*Figure 2-39 Multiple tubes created on the surface of a sphere*



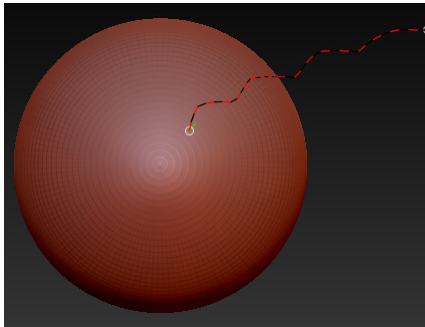
*Figure 2-40 The polygons pinched along the path*



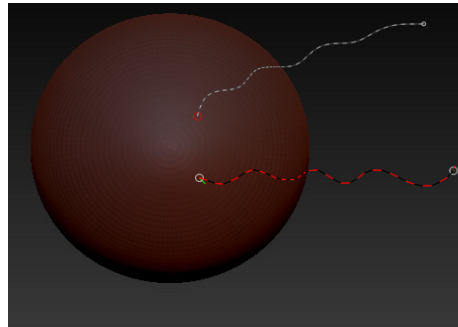
**Figure 2-41** An outline drawn on the surface of the sphere



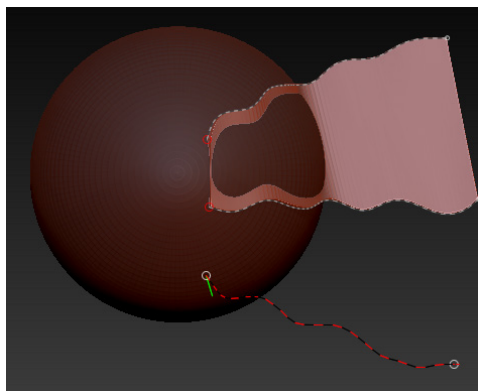
**Figure 2-42** A planar mesh created on the surface of the sphere



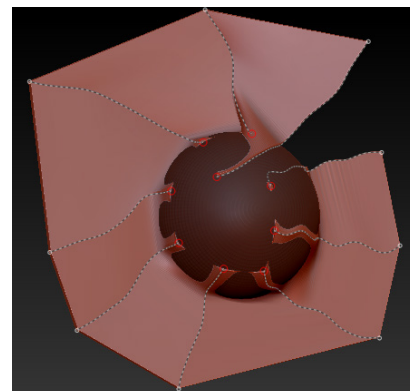
**Figure 2-43** A curve drawn on the surface of the sphere



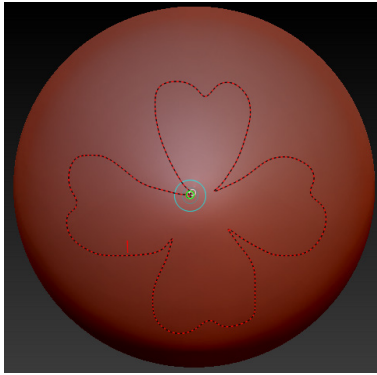
**Figure 2-44** Second curve drawn below the curve drawn previously



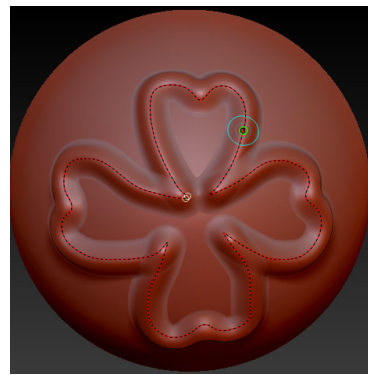
**Figure 2-45** Third curve drawn below the second curve



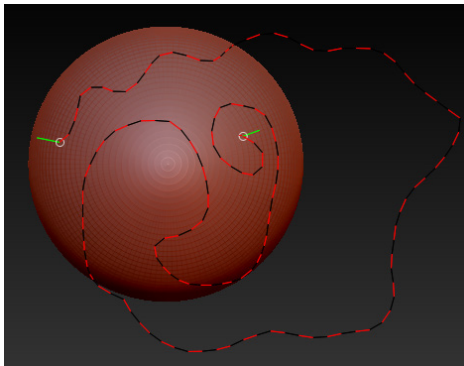
**Figure 2-46** A surface created using the CurveSnapSurface brush



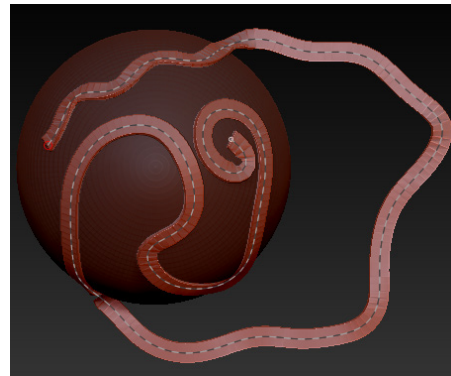
**Figure 2-47** A path created on the surface of the sphere



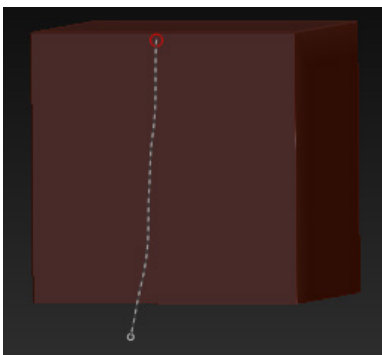
**Figure 2-48** The depth created along the path



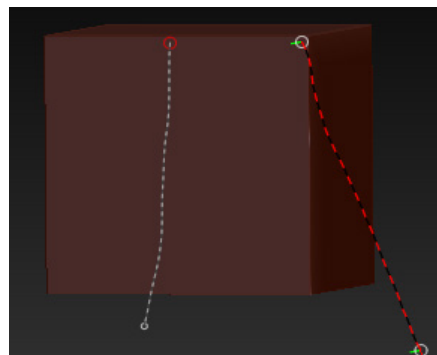
**Figure 2-49** A curve created on the surface of the sphere



**Figure 2-50** A surface resembling a ribbon created along the curve

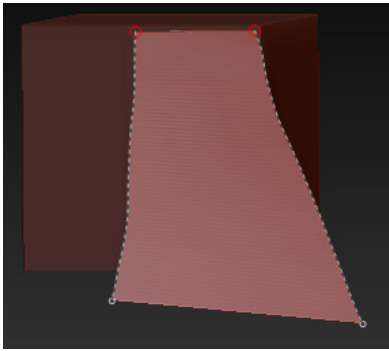


**Figure 2-51** A curve drawn on the surface of the cube

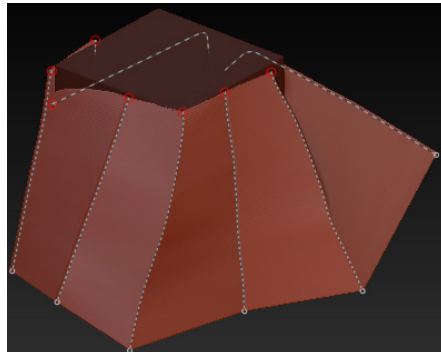


**Figure 2-52** Second curve drawn on the right side of the curve drawn previously

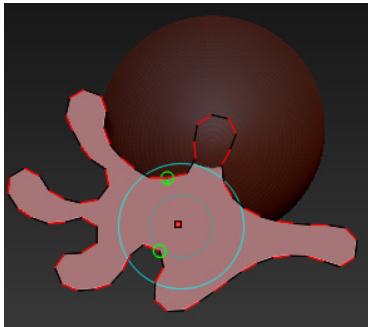




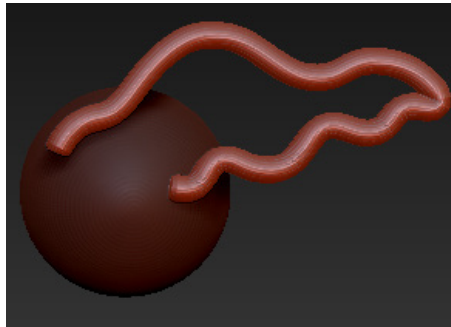
**Figure 2-53** The two curves snapped



**Figure 2-54** A new mesh created on the surface of the cube



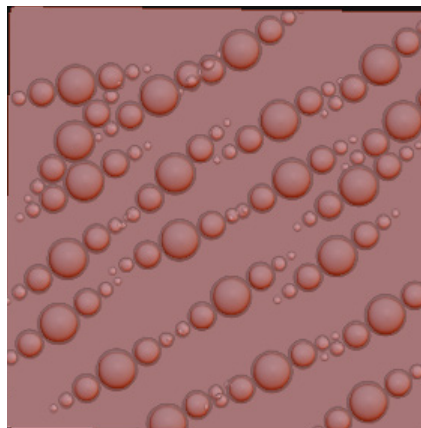
**Figure 2-55** A planar surface created using the **CurveTriFill** brush



**Figure 2-56** A curved tube created using the **CurveTube** brush

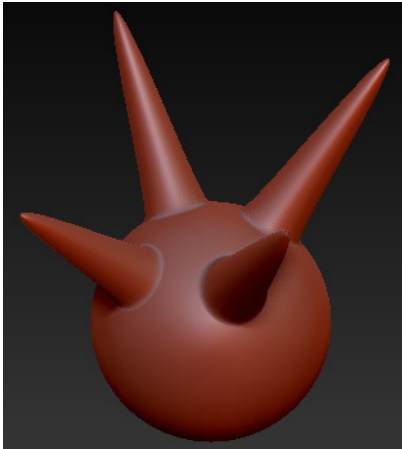


**Figure 2-57** A seam created in the sphere using the **DamStandard** brush

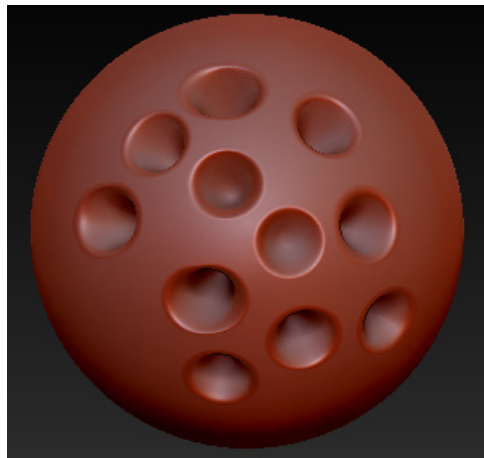


**Figure 2-58** A pattern created on the surface of a plane using the **Deco1** brush

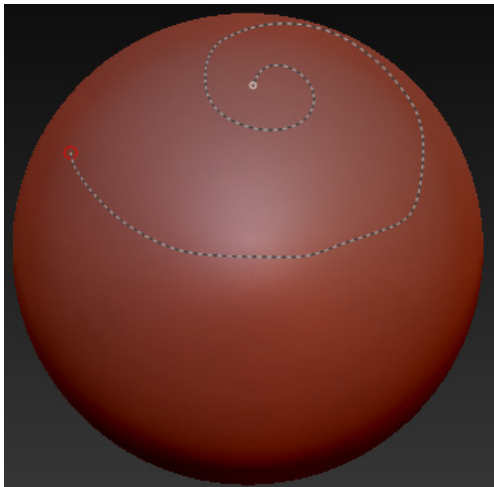




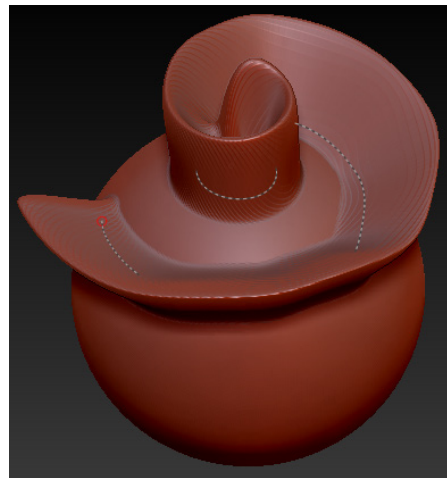
**Figure 2-59** The polygons pulled out using the **Displace** brush



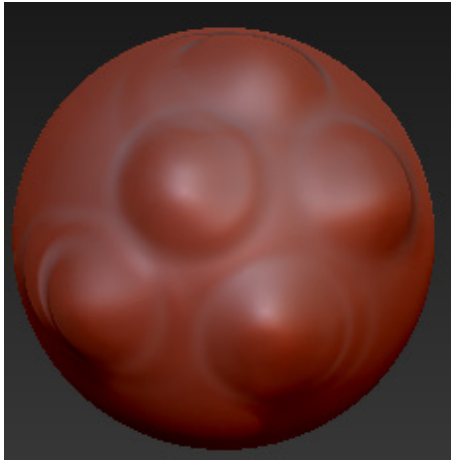
**Figure 2-60** The polygons pushed in using the **Displace** brush



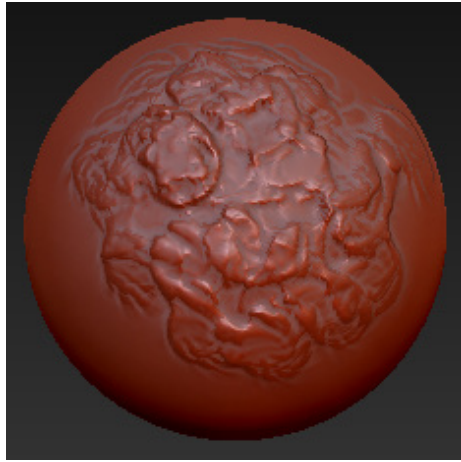
**Figure 2-61** The path curve created on the surface of the sphere



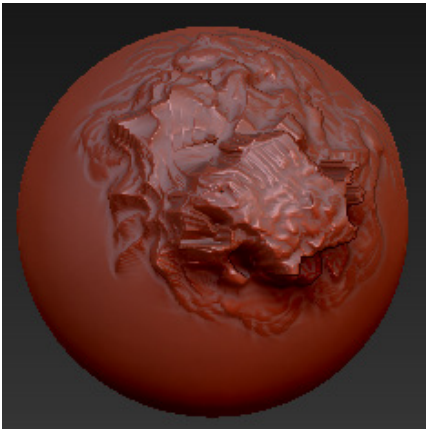
**Figure 2-62** The polygons pulled out along the path curve



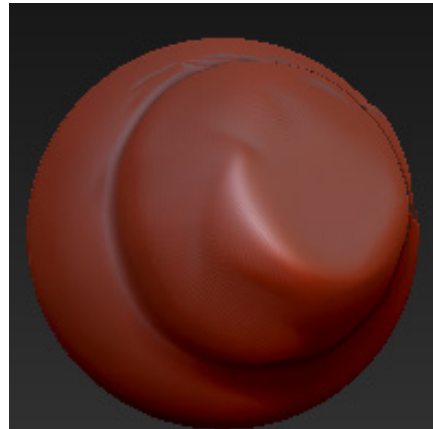
**Figure 2-63** *The original shape of the sphere maintained*



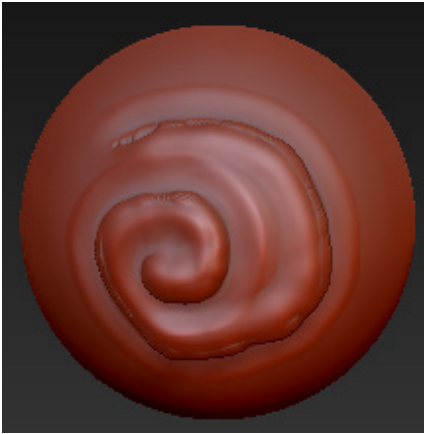
**Figure 2-64** *Flakes created on the surface of a sphere*



**Figure 2-65** *Flakes created on the surface of a sphere using the **Flakes** brush*



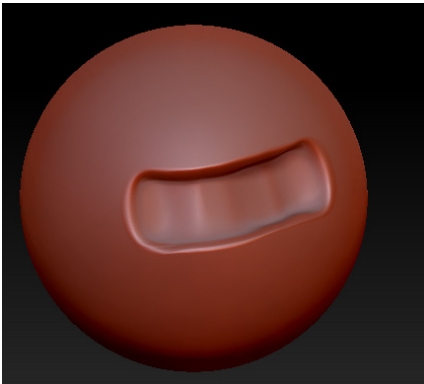
**Figure 2-66** *The surface of the sphere flattened using the **Flatten** brush*



*Figure 2-67* *Folds created on the surface of a sphere*



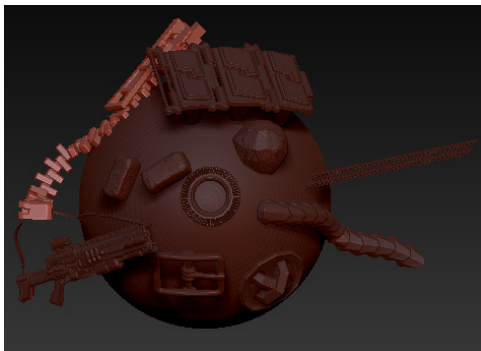
*Figure 2-68* *The Groom brushes*



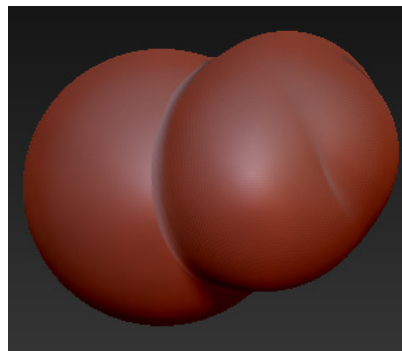
*Figure 2-69* *Surface of the sphere modified by using the **hPolish** brush*



*Figure 2-70* *The IMM brushes*



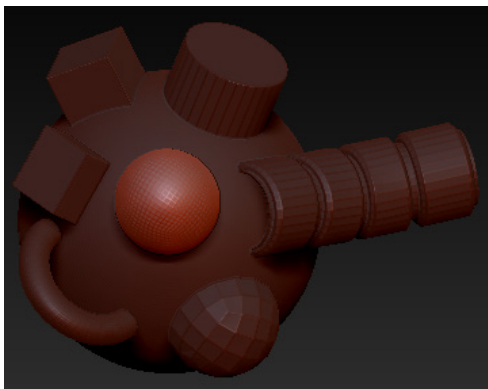
**Figure 2-71** Different objects inserted into a sphere using IMM brushes



**Figure 2-72** Surface of the sphere expanded by using the **Inflat** brush



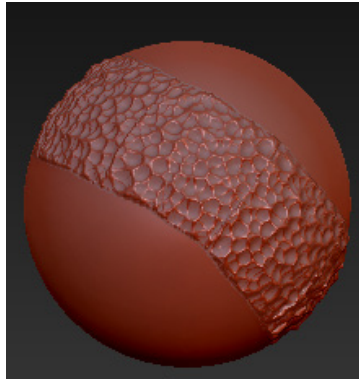
**Figure 2-73** The Insert brushes



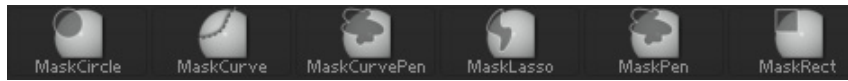
**Figure 2-74** Different shapes inserted into a sphere using the insert brushes



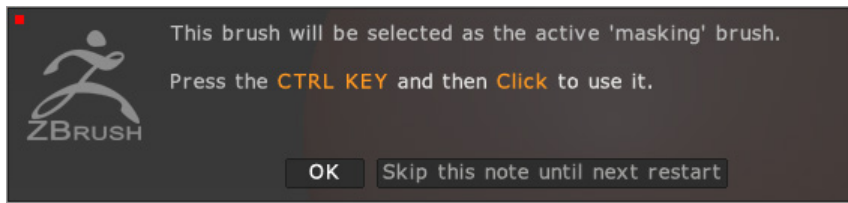
**Figure 2-75** Constant displacement created using the **Layer** brush



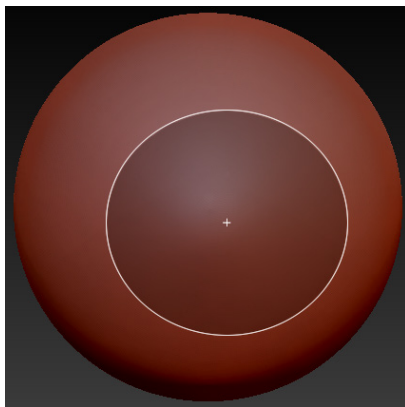
*Figure 2-76 A pattern created using the **LayeredPattern** brush*



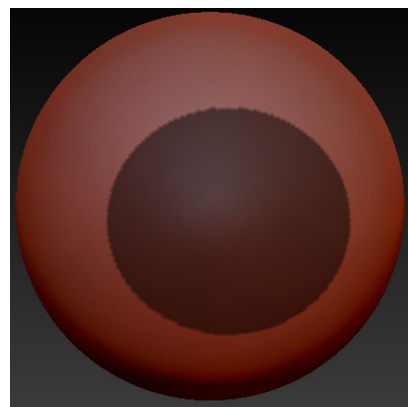
*Figure 2-77 The mask brushes*



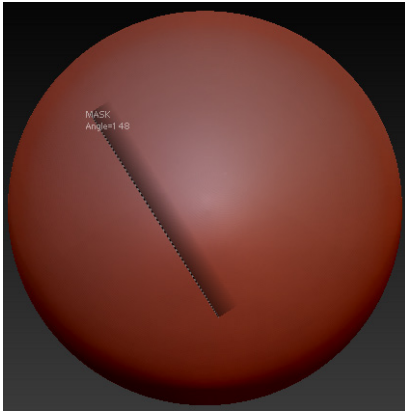
*Figure 2-78 The message box displayed on choosing the **MaskCircle** brush*



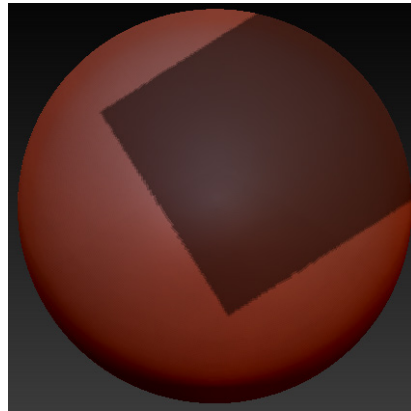
*Figure 2-79 A circular marquee selection displayed*



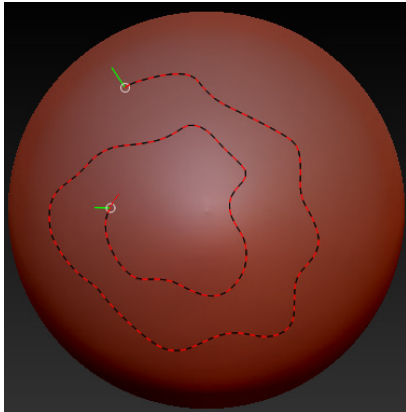
*Figure 2-80 A circular mask created on the surface of the sphere*



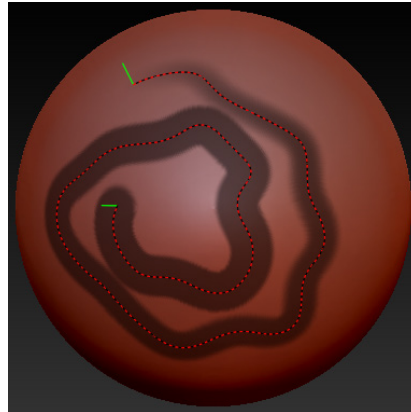
**Figure 2-81** A straight line displayed on the surface of the sphere



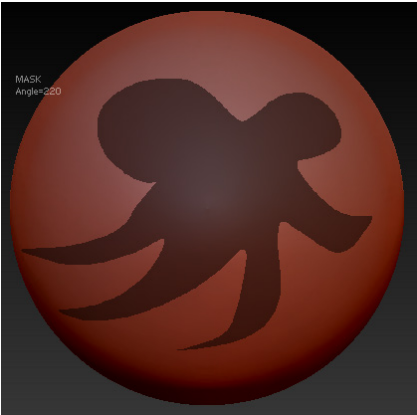
**Figure 2-82** A mask created on the surface of the sphere



**Figure 2-83** A path curve created on the surface of the sphere



**Figure 2-84** A mask created along the path curve



**Figure 2-85** A freeform mask created using the mask overlay



**Figure 2-86** A mask drawn with freehand using the **MaskPen** brush



**Figure 2-87** A mask created using the **MaskPen** brush



**Figure 2-88** An area of the mask removed

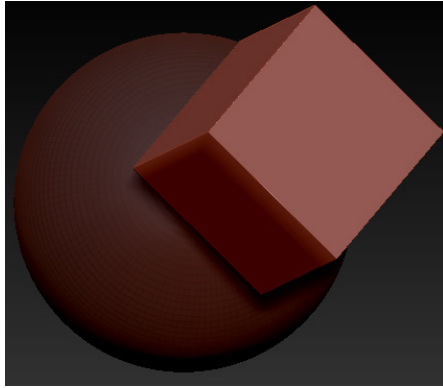


Figure 2-89 The Modifiers subpalette in the Brush palette

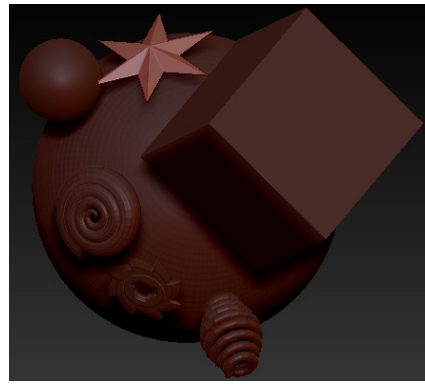


Figure 2-90 The flyout displayed on choosing the MeshInsert Preview button

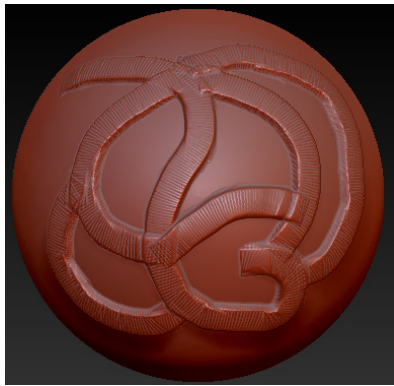




**Figure 2-91** A cube created on the surface of the sphere



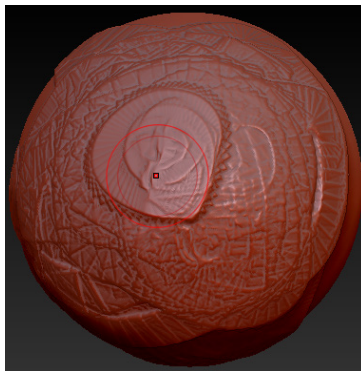
**Figure 2-92** Different types of primitives inserted on the surface of the sphere



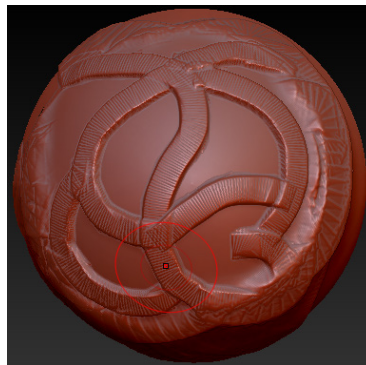
**Figure 2-93** A pattern created using the ClayBuildup brush



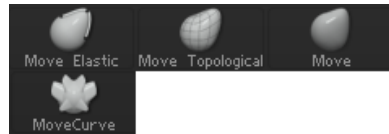
**Figure 2-94** Morph Target subpalette in the Tool palette



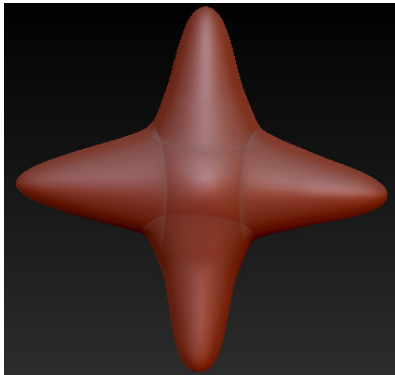
**Figure 2-95** A pattern created on the existing pattern



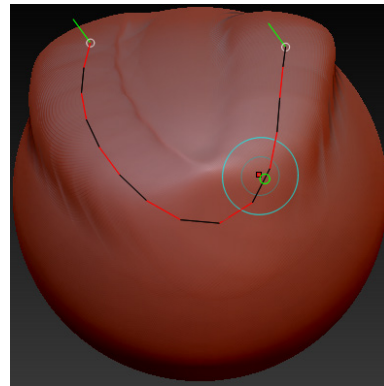
**Figure 2-96** Cursor dragged on the surface of the sphere



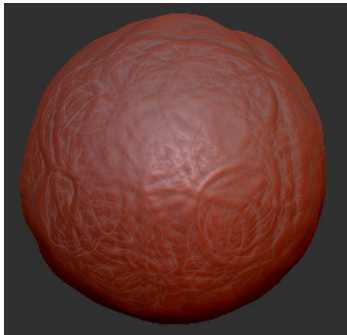
**Figure 2-97** *The move brushes*



**Figure 2-98** *Shape of the sphere modified using the **Move** brush*



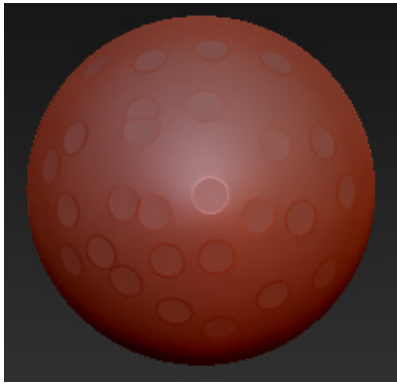
**Figure 2-99** *The polygons moved along the path curve*



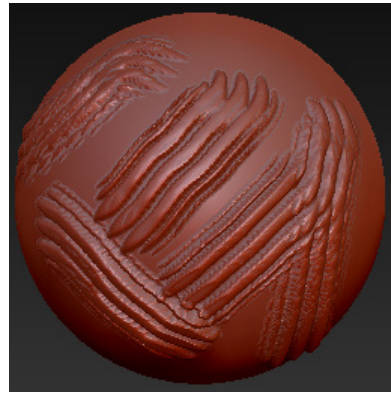
**Figure 2-100** *Fractal noise added using the **Noise** brush*



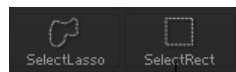
**Figure 2-101** *The pen brushes*



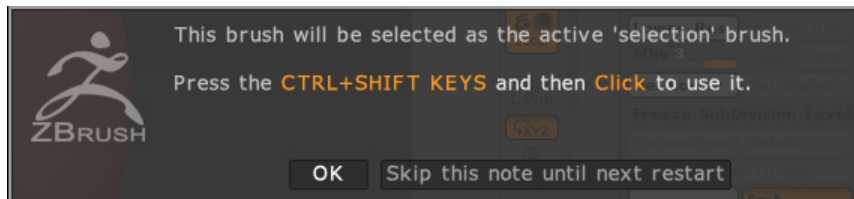
**Figure 2-102** The surface of the sphere flattened



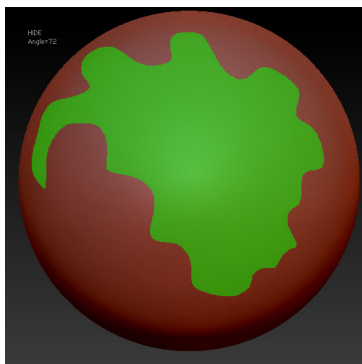
**Figure 2-103** Scratches created on the surface of a sphere



**Figure 2-104** The select brushes



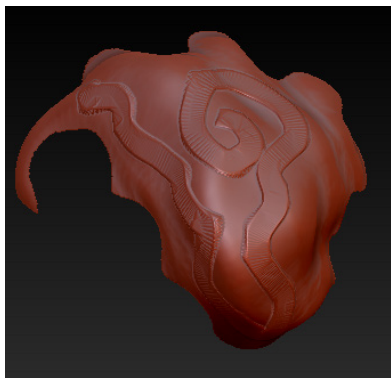
**Figure 2-105** The message box displayed on choosing the **SelectLasso** brush



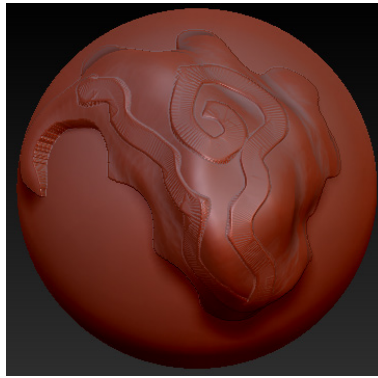
**Figure 2-106** Green selection mask displayed on the surface



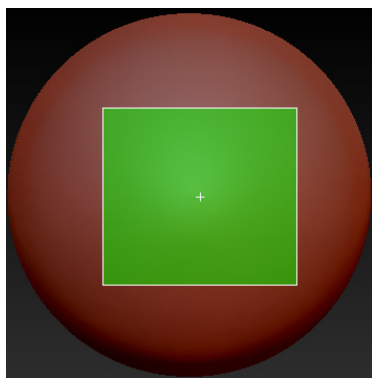
**Figure 2-107** The selected area displayed in the canvas



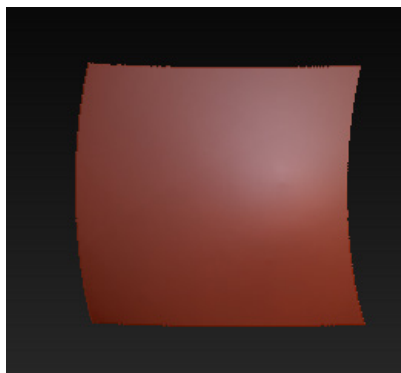
**Figure 2-108** The selected area sculpted using different brushes



**Figure 2-109** The complete sphere displayed in the canvas



**Figure 2-110** The green colored rectangular selection displayed



**Figure 2-111** The selected area of the sphere displayed in the canvas



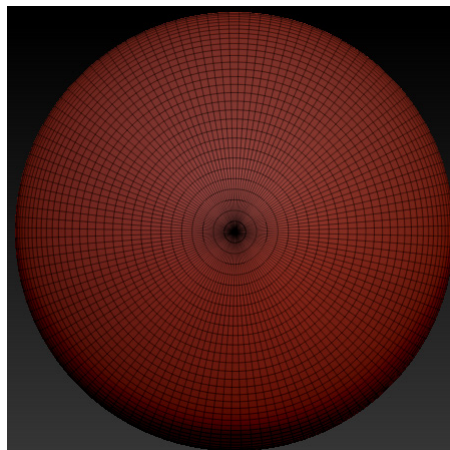
**Figure 2-112** Pattern produced using the *Slash3* brush



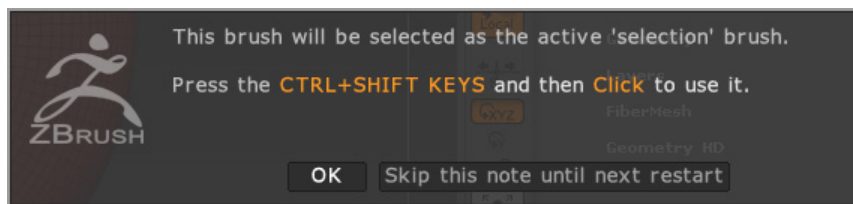
**Figure 2-113** Pattern produced using the *Slash3* brush



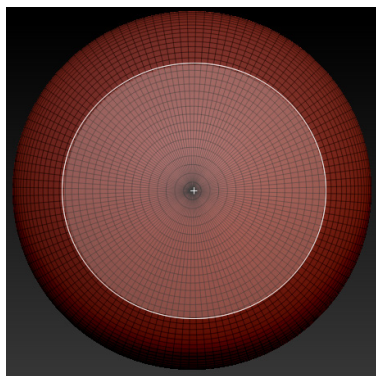
**Figure 2-114** The slice brushes



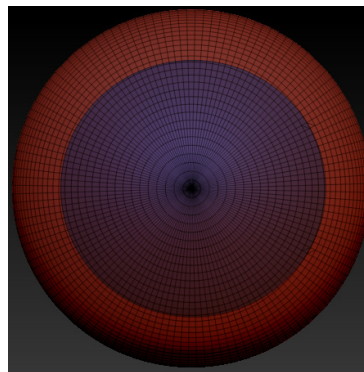
**Figure 2-115** The polygons of the sphere displayed



**Figure 2-116** The message box displayed on choosing the *SliceCirc* button

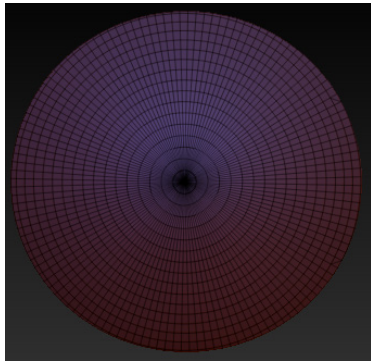


**Figure 2-117** A circular selection mask displayed on the sphere

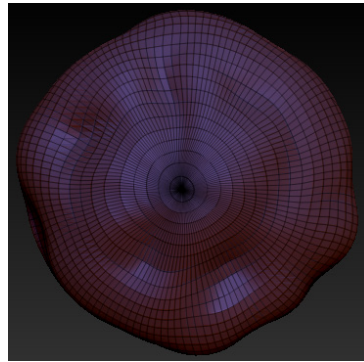


**Figure 2-118** The selected area of the mask separated from the sphere

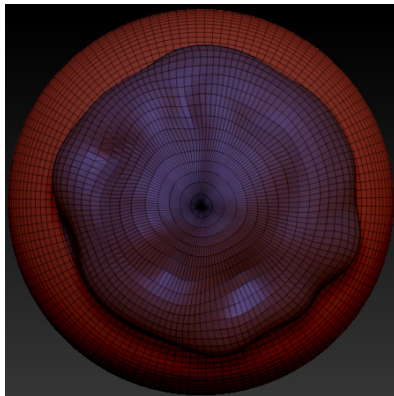




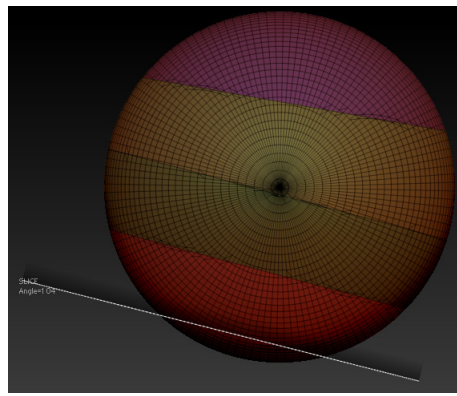
**Figure 2-119** The selected area displayed in the canvas



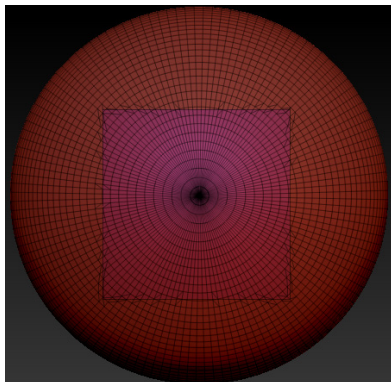
**Figure 2-120** The selected area sculpted using the **Standard** brush



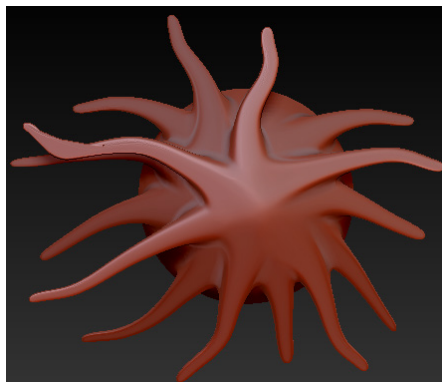
**Figure 2-121** The complete sphere displayed in the canvas



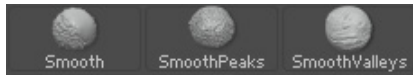
**Figure 2-122** The sphere divided into different parts using the **SliceCurve** brush



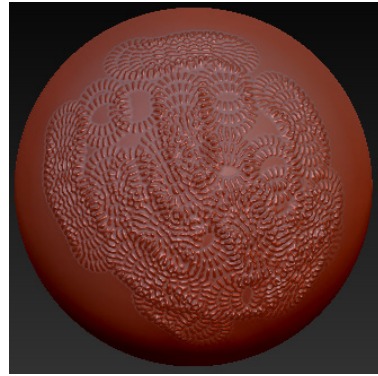
**Figure 2-123** A rectangular selection area created on the surface of sphere



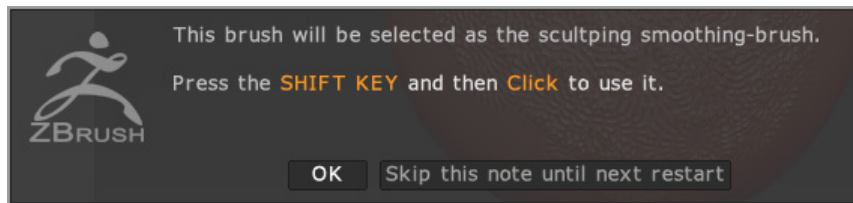
**Figure 2-124** The polygons slide outward using the **Slide** brush



*Figure 2-125 The Smooth brushes*



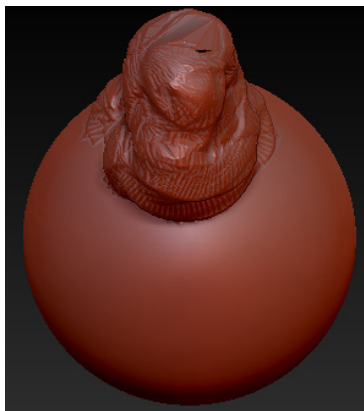
*Figure 2-126 Pattern created using the **Standard** brush*



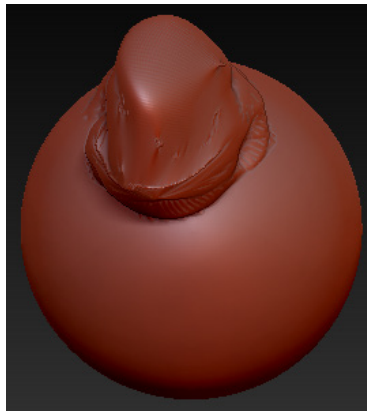
*Figure 2-127 The message box displayed on choosing the **Smooth** brush*



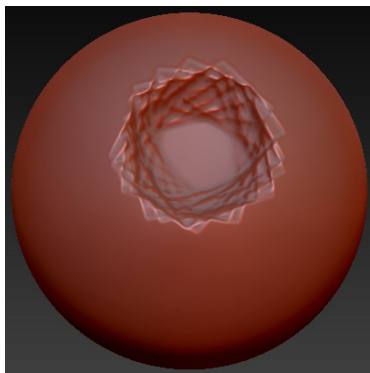
*Figure 2-128 The surface smoothened using the **Smooth** brush*



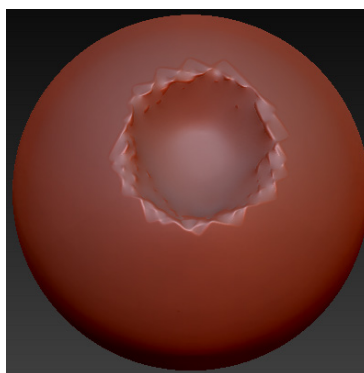
**Figure 2-129** Peak created using the *ClayBuildup* brush



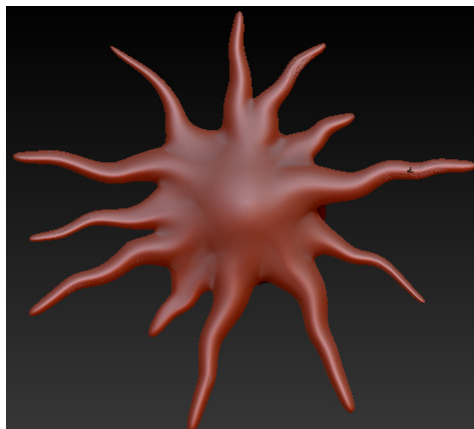
**Figure 2-130** Peak smoothed using the *SmoothPeaks* brush



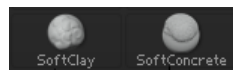
**Figure 2-131** Cavity created using the *ClayBuildup* brush



**Figure 2-132** Cavity smoothed using the *SmoothValleys* brush

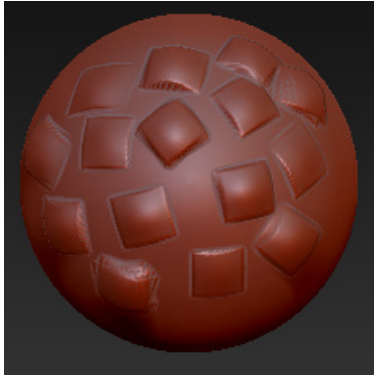


**Figure 2-133** Strands pulled out using the *SnakeHook* brush



**Figure 2-134** The soft brushes





**Figure 2-135** Rectangular alpha added using the **SoftClay** brush



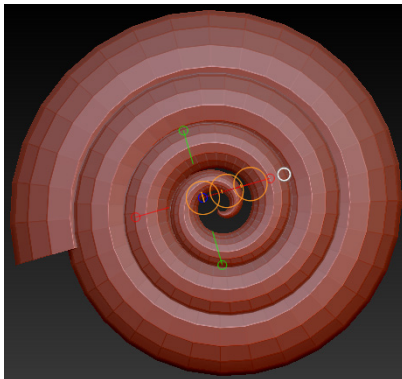
**Figure 2-136** A stone like alpha added using the **SoftConcrete** brush



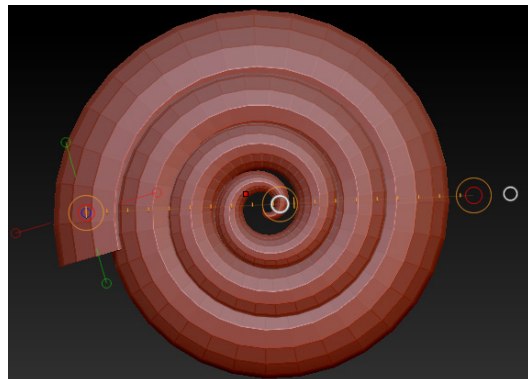
**Figure 2-137** Twisted displacement produced by using the **Spiral** brush



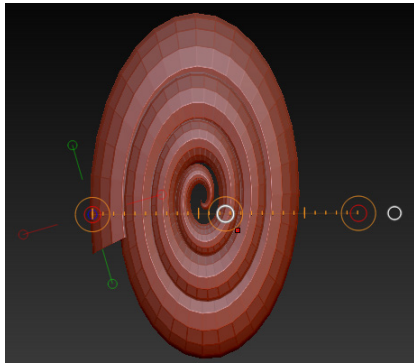
**Figure 2-138** A sphere sculpted by the **Standard** brush



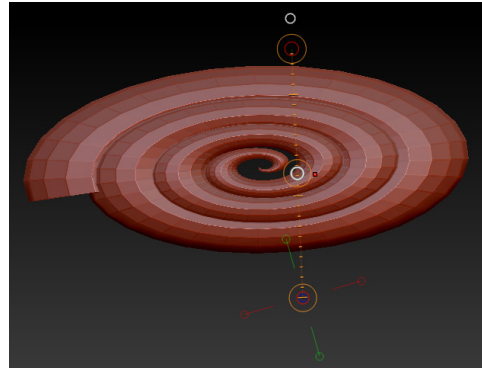
**Figure 2-139** Action line displayed on the spiral



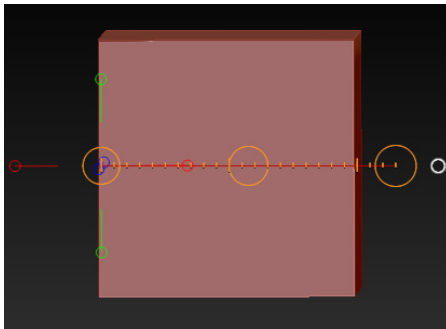
**Figure 2-140** Size of the action line increased



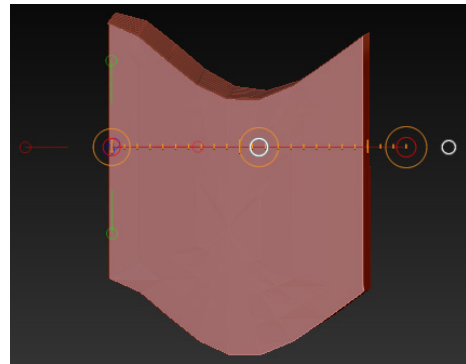
**Figure 2-141** Spiral scaled up vertically



**Figure 2-142** Spiral scaled up horizontally



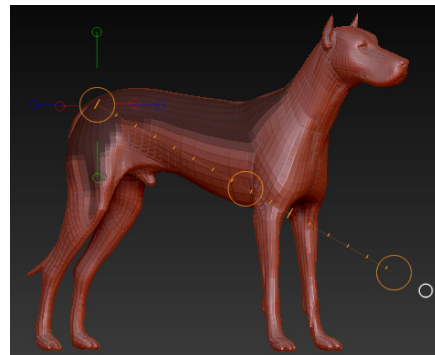
**Figure 2-143** Action line displayed on the spiral



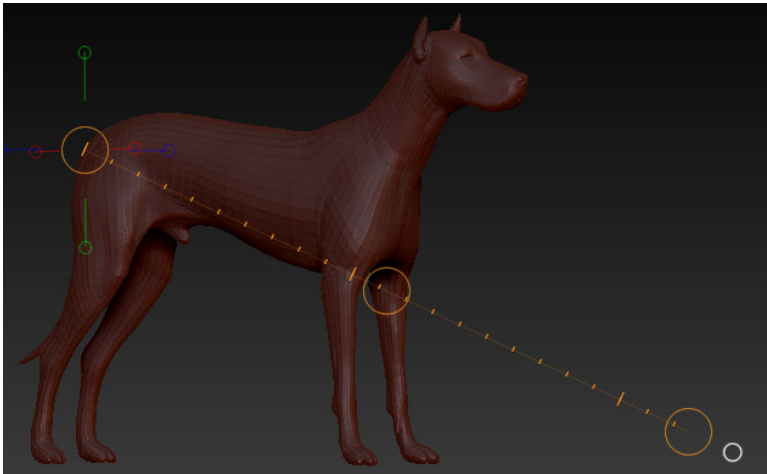
**Figure 2-144** Surface of the cube bent using the **Transpose** brush



**Figure 2-145** Model of the dog created in the canvas



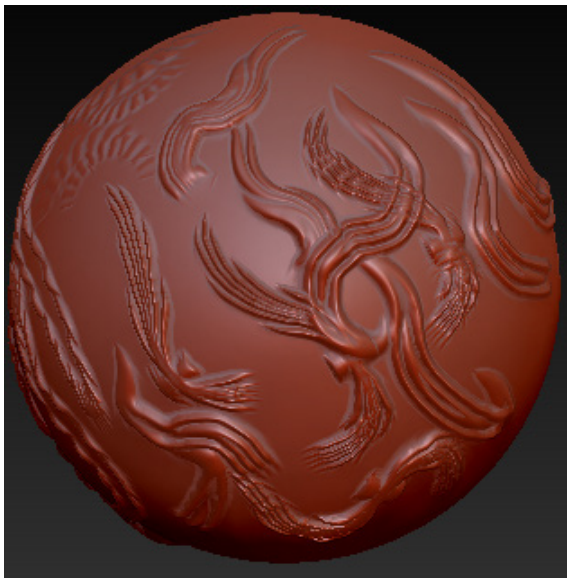
**Figure 2-146** Mask created on the top area of the model



*Figure 2-147 Mask created on the entire surface of the model*



*Figure 2-148 The Trim brushes*



*Figure 2-149 Different patterns created using the **Weave** brush*

# ***Chapter 3***

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## ***Introduction to Digital Sculpting***



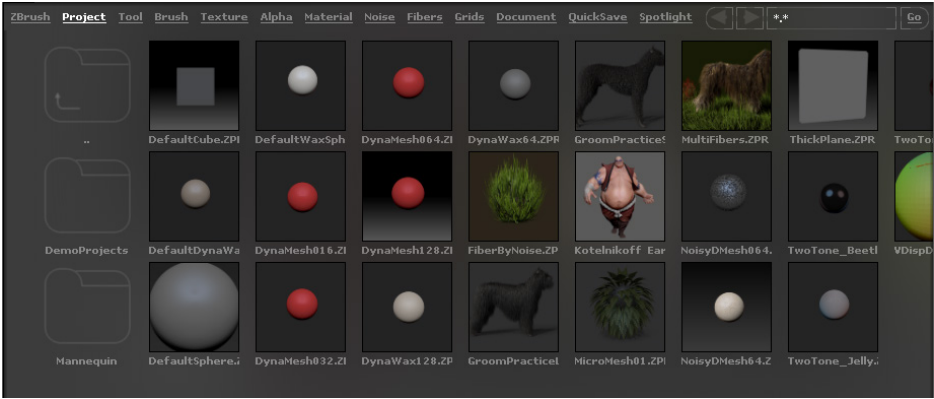
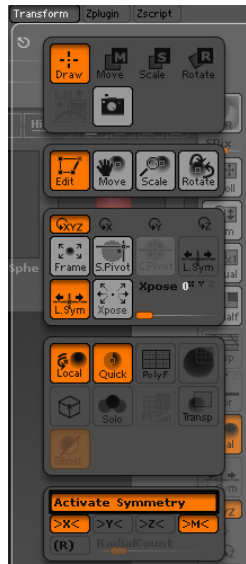


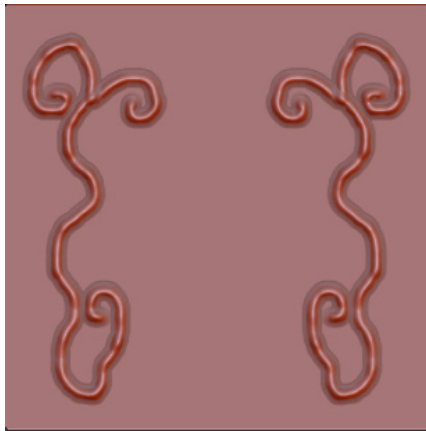
Figure 3-1 The LightBox browser



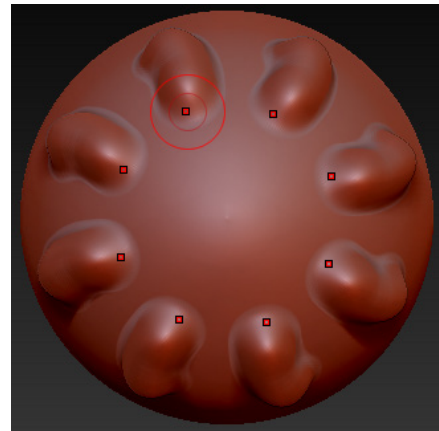
Figure 3-2 The primitives accessed through the flyout



*Figure 3-3 The Activate Symmetry button in the Transform palette*



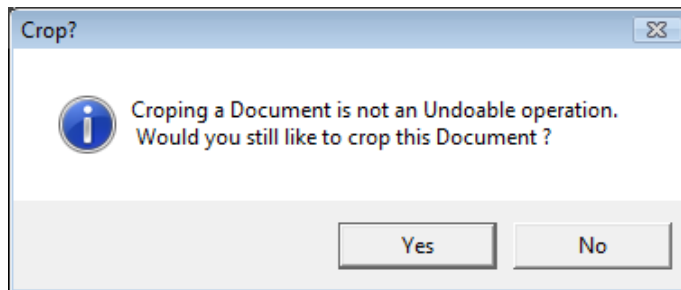
*Figure 3-4 Pattern drawn with the symmetry activated along X axis*



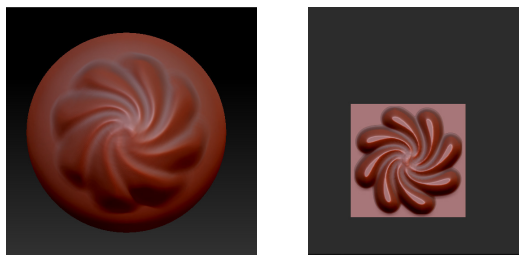
*Figure 3-5 Radial pattern drawn with the symmetry activated along Z axis*



*Figure 3-6 The alpha patterns*



*Figure 3-7 The warning message displayed on choosing the **CropAndFill** button*



*Figure 3-8 Object cropped by using the **CropAndFill** button*

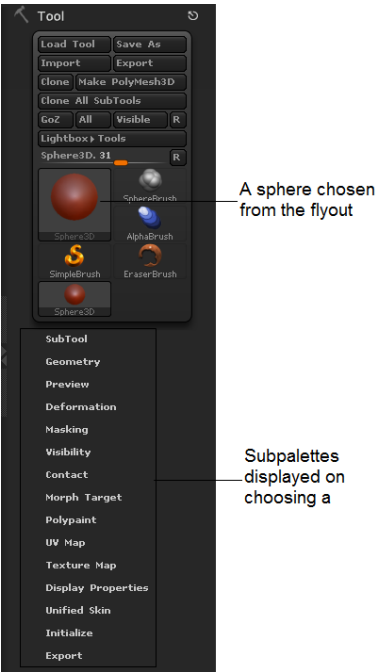


Figure 3-9 Subpalettes displayed on choosing a primitive

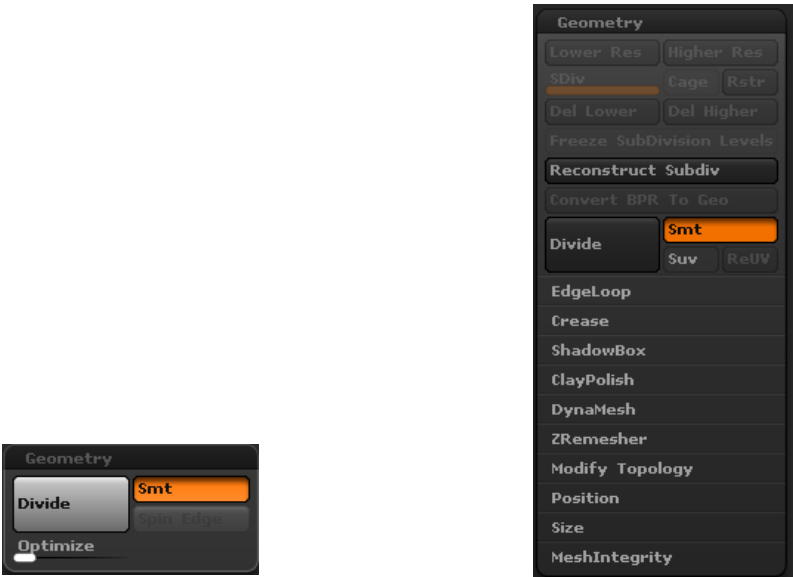


Figure 3-10 The **Geometry** subpalette displayed on creating a primitive model

Figure 3-11 The **Geometry** subpalette displayed on converting a primitive model into a polymesh





Figure 3-12 The **Geometry** subpalette displayed on creating a ZSphere

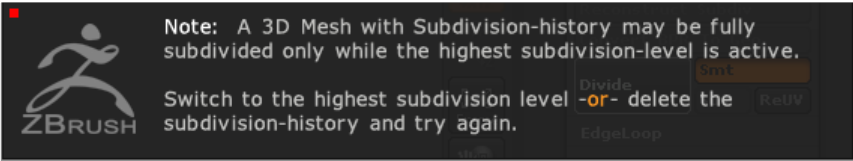


Figure 3-13 A message box displayed when the **SDiv** slider is not at its highest subdivision level

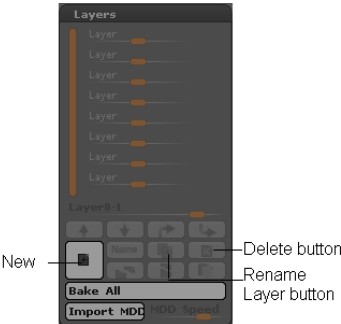


Figure 3-14 The **Layers** subpalette

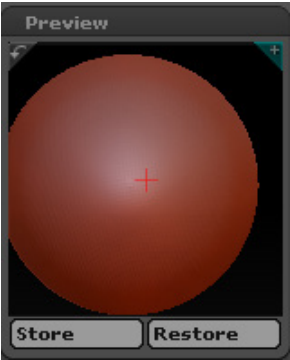


Figure 3-15 The preview area in the *Preview* subpalette



Figure 3-16 The *Surface* subpalette

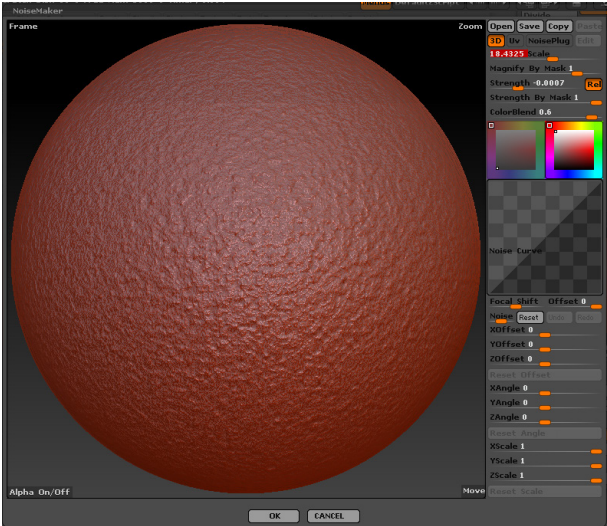
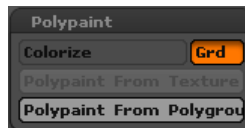


Figure 3-17 The *NoiseMaker* window



*Figure 3-18 The Deformation subpalette*



*Figure 3-19 The Polypaint subpalette*



*Figure 3-20 The Make Unified Skin button in the Unified Skin subpalette*

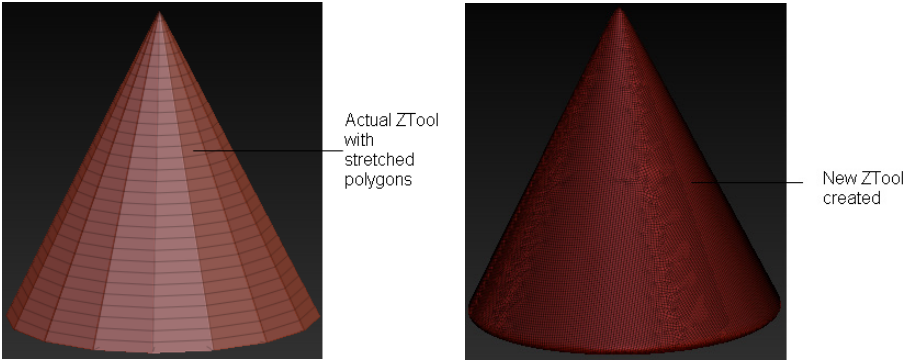


Figure 3-21 The ZTool created after choosing the **Make Unified Skin** button



Figure 3-22 The **Initialize** subpalette



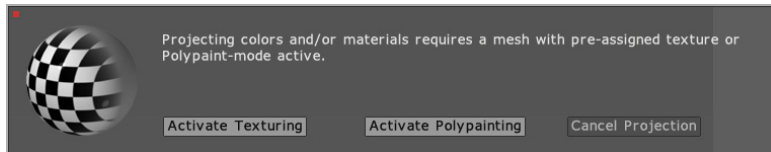
Figure 3-23 The **Export** subpalette



Figure 3-24 The **Projection Master** button in the top shelf



Figure 3-25 The **Projection Master** dialog box



*Figure 3-26* Message box displayed on choosing the **DROP NOW** button



*Figure 3-27* Colors painted on the 2D illustration



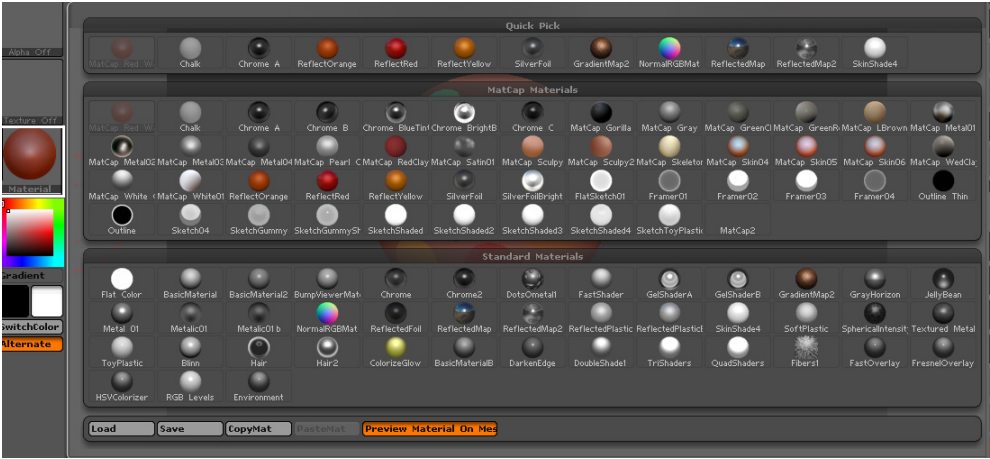
*Figure 3-28* The **PICKUP NOW** button in the **Projection Master** dialog box



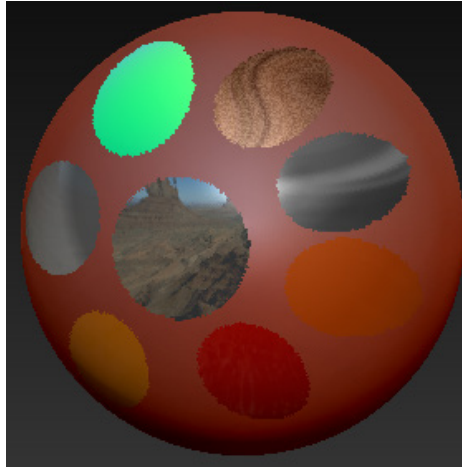
*Figure 3-29 The 2.5D illustration of the model painted*



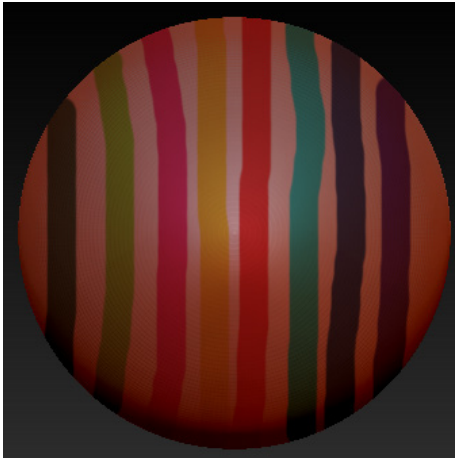
*Figure 3-30 Shading applied on the visible portion of the model*



*Figure 3-31 The flyout displayed*



*Figure 3-32 The 3D model with painted materials*



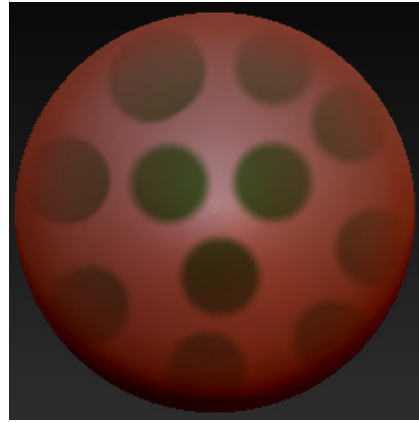
*Figure 3-33 Different colors painted on the 2D illustration*



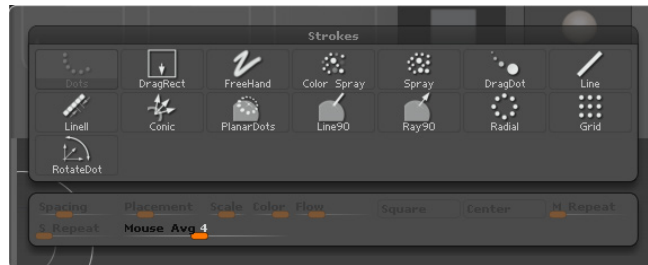
*Figure 3-34 Painted colors replicated on the backside of the sphere*



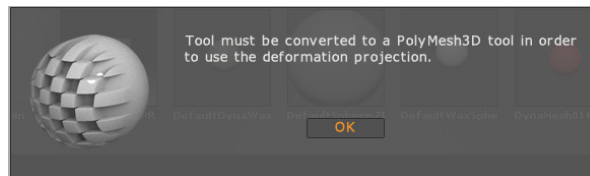
**Figure 3-35** The 2D illustration of a sphere painted with the **Fade** check box selected



**Figure 3-36** Effect after selecting the **Fade** check box on the sphere

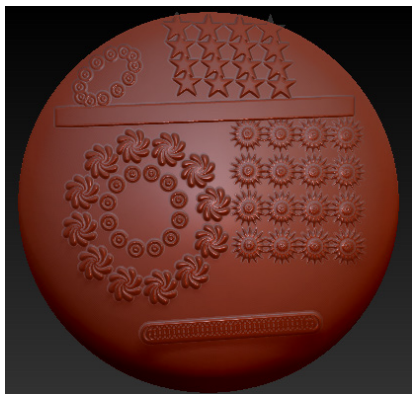


**Figure 3-37** New stroke types added in the Stroke flyout

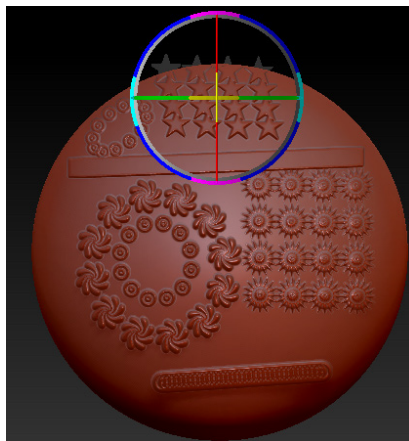


**Figure 3-38** The message displayed on selecting the **Deformation** check box for a primitive object





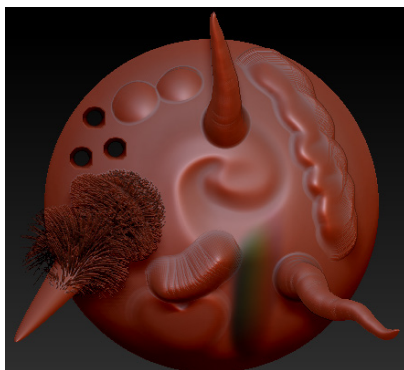
**Figure 3-39** Different patterns created using different strokes and alphas



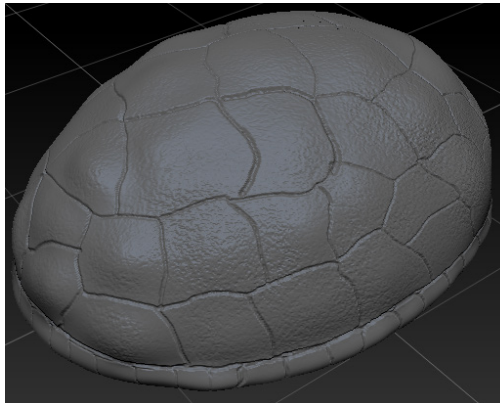
**Figure 3-40** Moving a pattern toward left



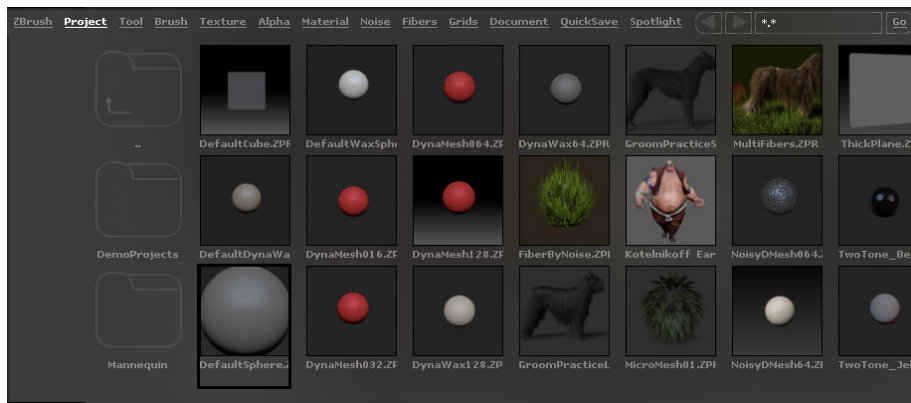
**Figure 3-41** The 2.5D brushes in the *Tool* flyout



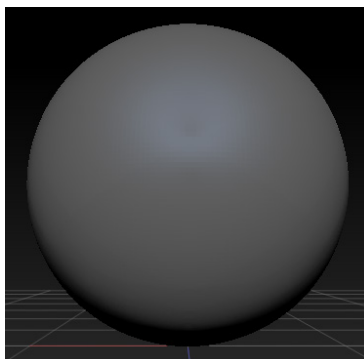
**Figure 3-42** Different types of sculpting done by using different 2.5D brushes



*Figure 3-43 The turtle shell*



*Figure 3-44 The DefaultSphere.ZPR file chosen from the LightBox browser*



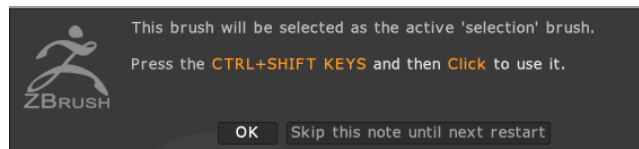
*Figure 3-45 The DefaultSphere model created on the canvas*



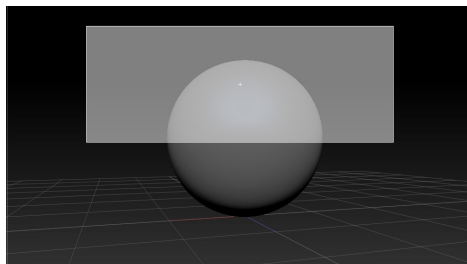
*Figure 3-46 The **LightBox** button in the top shelf*



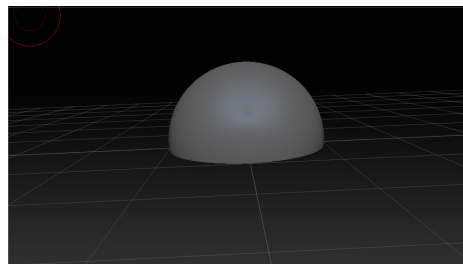
*Figure 3-47 Choosing the **ClipRect** brush from the flyout*



*Figure 3-48 Message box displayed on choosing the **ClipRect** brush*



*Figure 3-49 Upper part of sphere selected using the marquee selection*



*Figure 3-50 Lower half of the sphere deleted*



Figure 3-51 The Deformation subpalette expanded



Figure 3-52 The x and y options deactivated



Figure 3-53 Value entered in the edit box

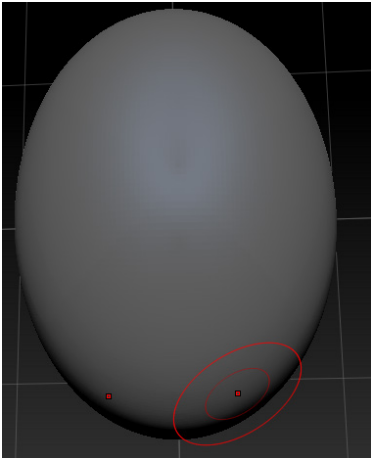


Figure 3-54 Top view of the turtle shell

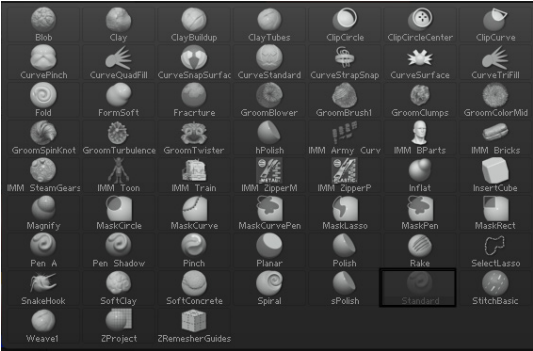
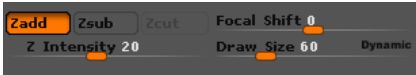
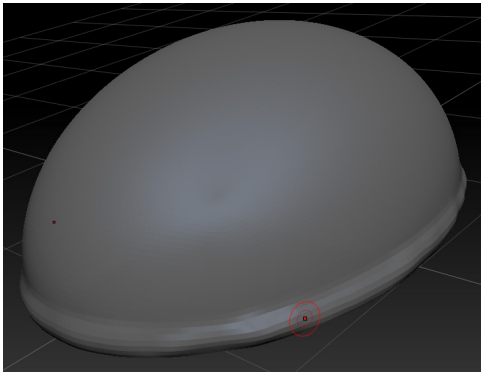


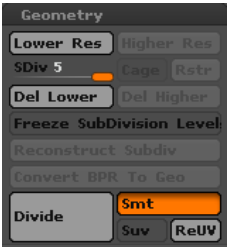
Figure 3-55 The Standard brush chosen from the flyout



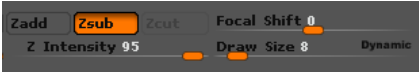
*Figure 3-56* Settings for the **Standard** brush for adding depth



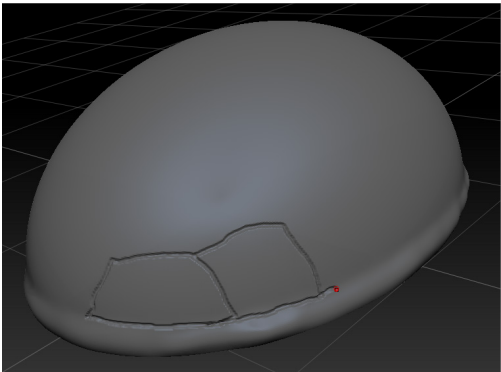
*Figure 3-57* Depth added to the lower part of the turtle shell using the **Standard** brush



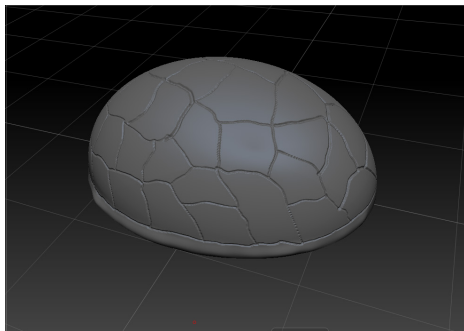
*Figure 3-58* Choosing the **Divide** button from the **Geometry** subpalette



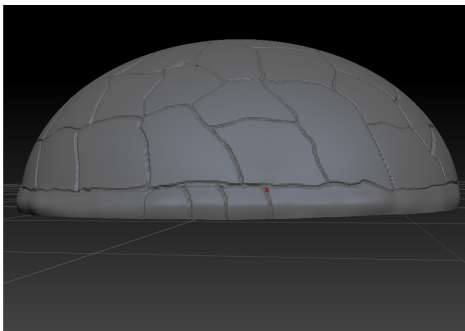
*Figure 3-59* Settings for the **Standard** brush for creating pattern



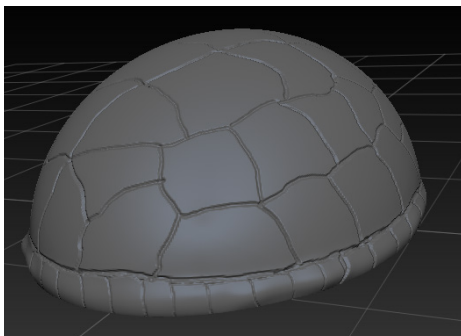
*Figure 3-60* A pattern created on the upper part of the turtle shell using the **Standard** brush



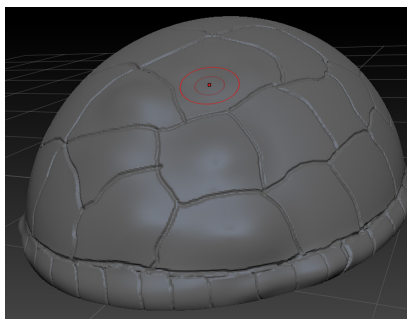
**Figure 3-61** Pattern created on the entire upper part of the turtle shell



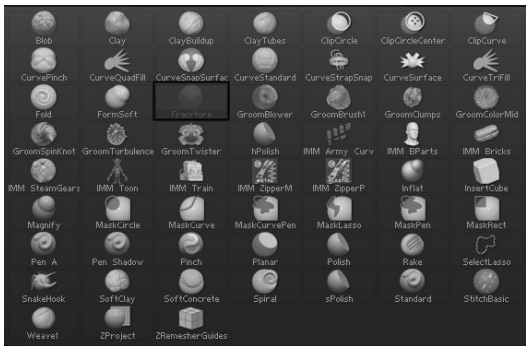
**Figure 3-62** Pattern created on the lower part of the turtle shell using the **Standard** brush



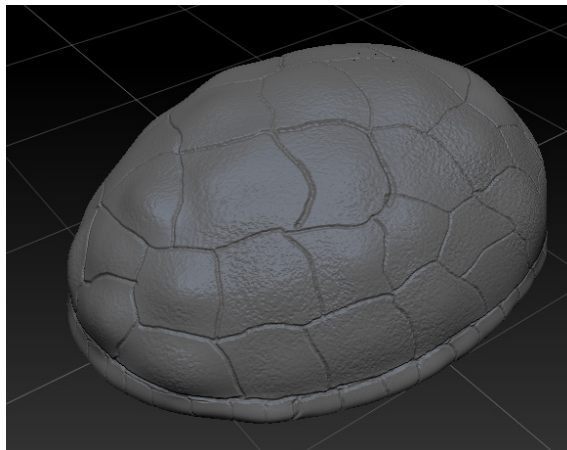
**Figure 3-63** Pattern created on the entire lower part of the turtle shell



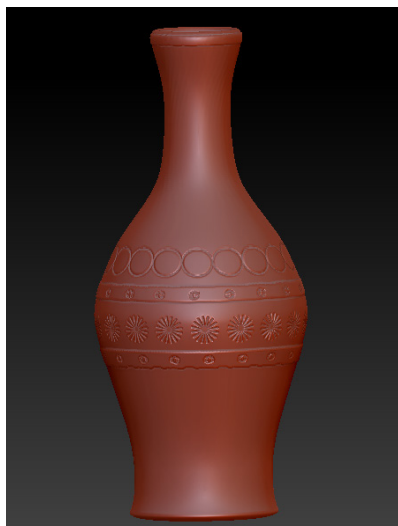
**Figure 3-64** Depth added to the pattern using the **Standard** brush



**Figure 3-65** The **Fracture** brush chosen



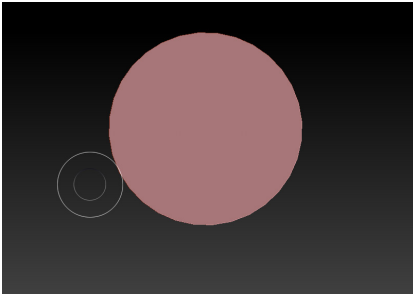
*Figure 3-66 The final output*



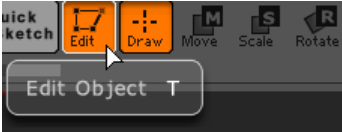
*Figure 3-67 The flower vase*



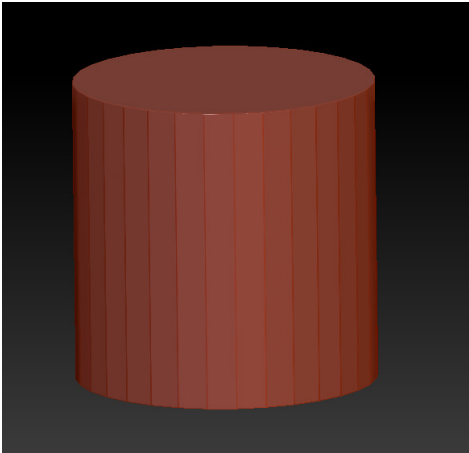
*Figure 3-68 Cylinder3D chosen from the flyout*



*Figure 3-69 The cylinder created in the canvas*



*Figure 3-70 The Edit button chosen from the top shelf*



*Figure 3-71 The cylinder rotated*



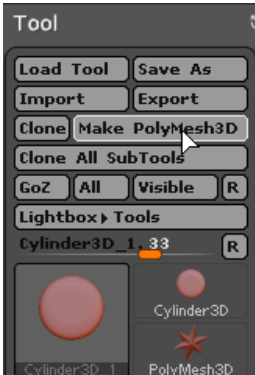


Figure 3-72 The Make PolyMesh3D button chosen from the Tool palette



Figure 3-73 Choosing the Divide button from the Geometry subpalette

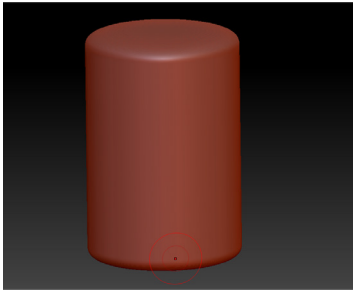
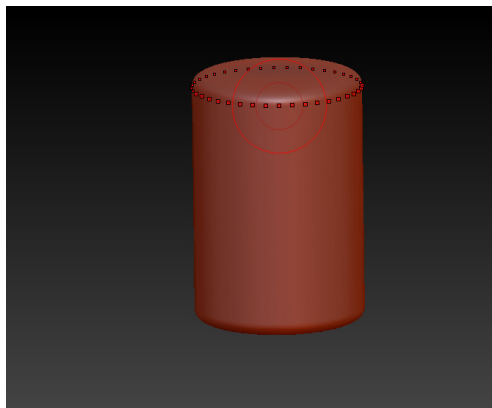


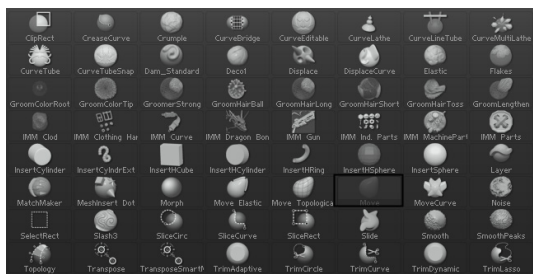
Figure 3-74 Height of the cylinder increased



Figure 3-75 The Activate Symmetry button chosen in the Transform palette



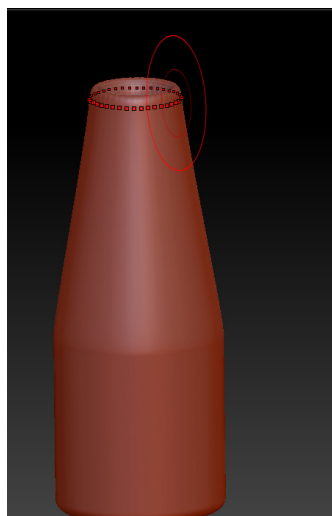
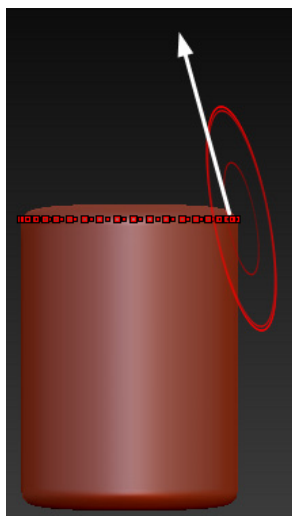
**Figure 3-76** Radial symmetry activated in the Z-axis



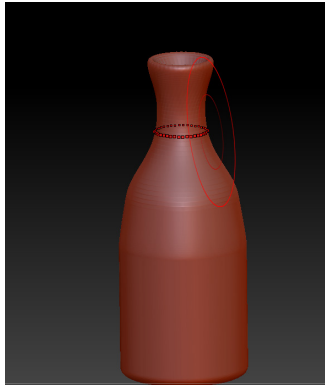
*Figure 3-77 The Move brush chosen*



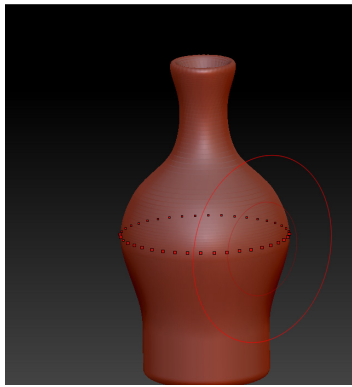
**Figure 3-78** The value of the **Draw Size** slider set to **450**



**Figure 3-79** Top area of the cylinder dragged upward



**Figure 3-80** Neck of the flower vase formed by using the **Move** brush



**Figure 3-81** Round shape given to the flower vase



**Figure 3-82** Shape of the flower vase refined by using the **Move** brush



Figure 3-83 The Alpha 28 alpha image chosen from the flyout

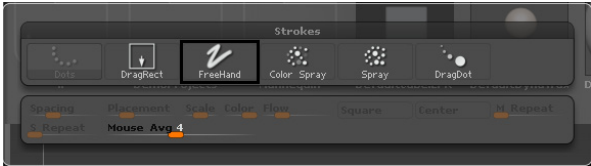
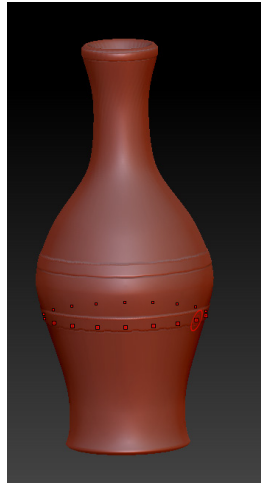


Figure 3-84 The FreeHand stroke chosen from the flyout



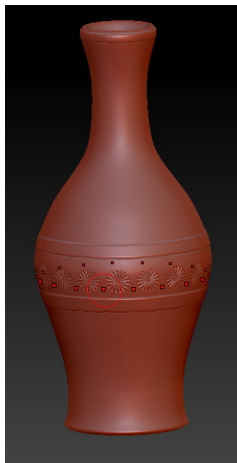
Figure 3-85 Pattern created on the neck area



**Figure 3-86** Pattern created on the other parts of the flower vase



**Figure 3-87** Alpha 34 chosen from the Alpha palette



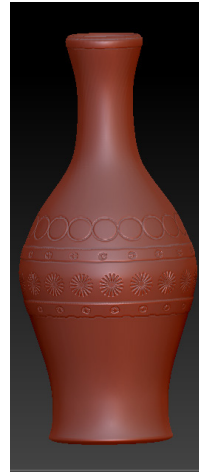
**Figure 3-88** The pattern created using Alpha 34



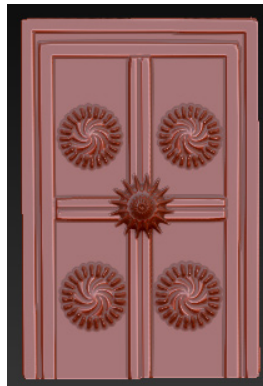
**Figure 3-89** Alpha 05 chosen from the flyout



**Figure 3-90** The pattern created using *Alpha 05*



**Figure 3-91** The final model of the flower vase



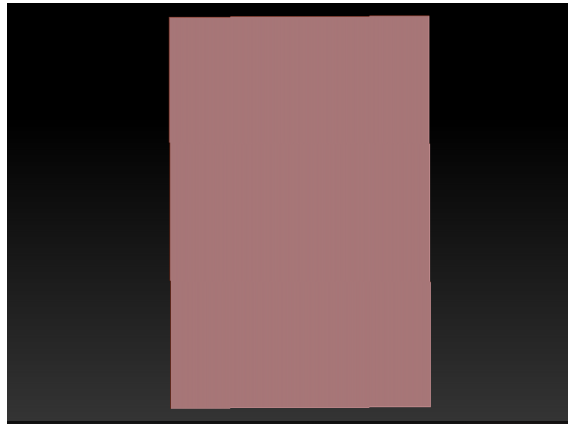
**Figure 3-92** Final model of the door



**Figure 3-93** The *Plane3D* primitive created on the canvas



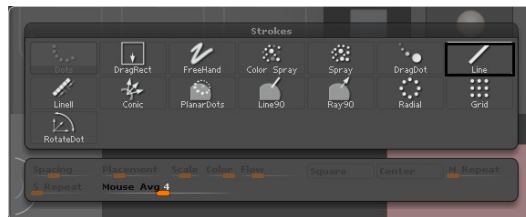
*Figure 3-94 The value of H Radius slider changed to 66*



*Figure 3-95 Shape of the plane changed*



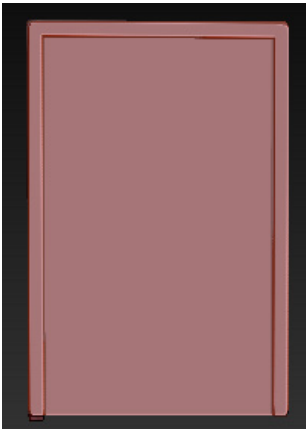
*Figure 3-96 The Deformation check box selected*



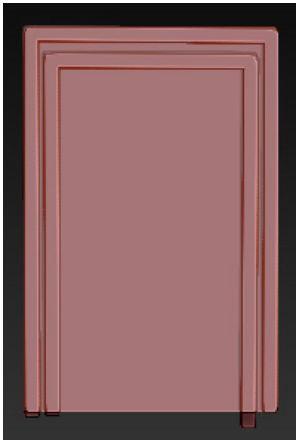
*Figure 3-97 The Line stroke chosen in the flyout*



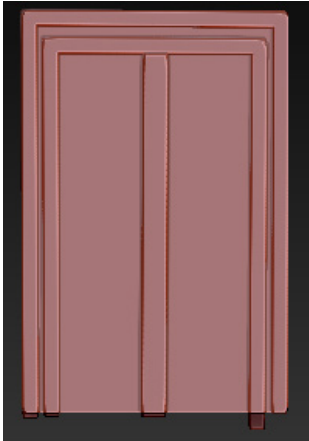
**Figure 3-98** Line drawn on the left side of the door



**Figure 3-99** Frame created for the door

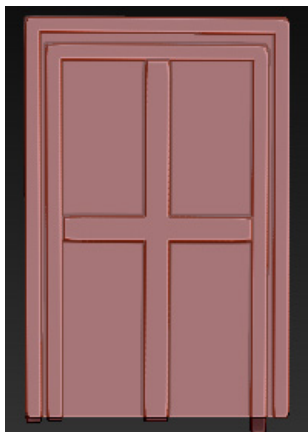


**Figure 3-100** Another frame created for the door

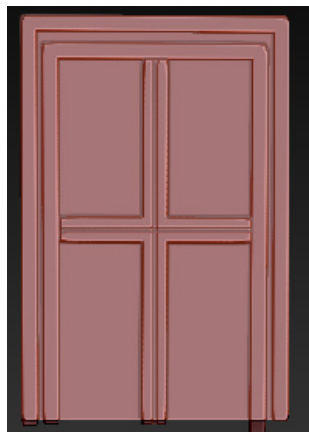


**Figure 3-101** A vertical partition created in the middle of the door

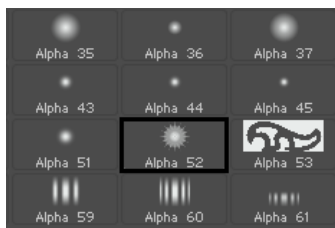




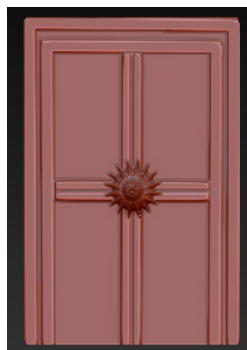
**Figure 3-102** A horizontal partition created in the middle of the door



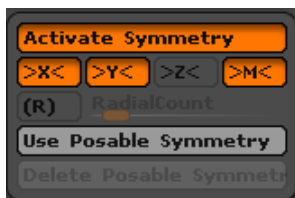
**Figure 3-103** The vertical and horizontal lines created on the partitions



**Figure 3-104** Alpha 52 chosen in the flyout



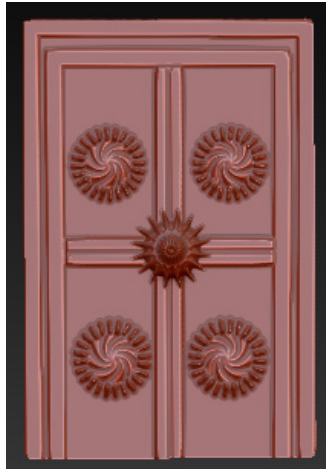
**Figure 3-105** Knob created for the door



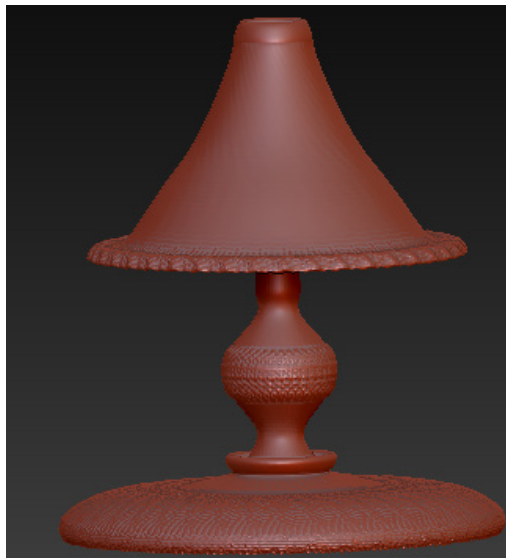
**Figure 3-106** Symmetry activated along X and Y axes



**Figure 3-107** Alpha 19 applied to the door panels



*Figure 3-108 Final model of the door*



*Figure 3-109 Model of a table lamp*



*Figure 3-110 Model of a photo frame*

# ***Chapter 4***

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## ***SubTools and FiberMesh***

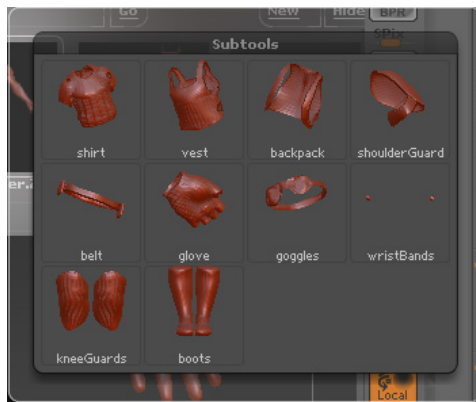




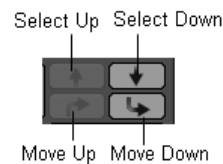
**Figure 4-1** The **SubTool** subpalette displayed on creating a sphere



**Figure 4-2** The **SubTool** subpalette displayed on loading the **DemoSoldier**



**Figure 4-3** The flyout displayed on choosing the **List All** button



**Figure 4-4** The arrow buttons

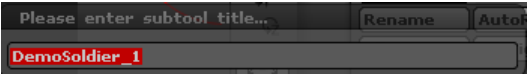


Figure 4-5 The Please enter subtool title window



Figure 4-6 The model of the DemoSoldier. ZTL before choosing the All Low button



Figure 4-7 The model of the DemoSoldier. ZTL after choosing the All Low button

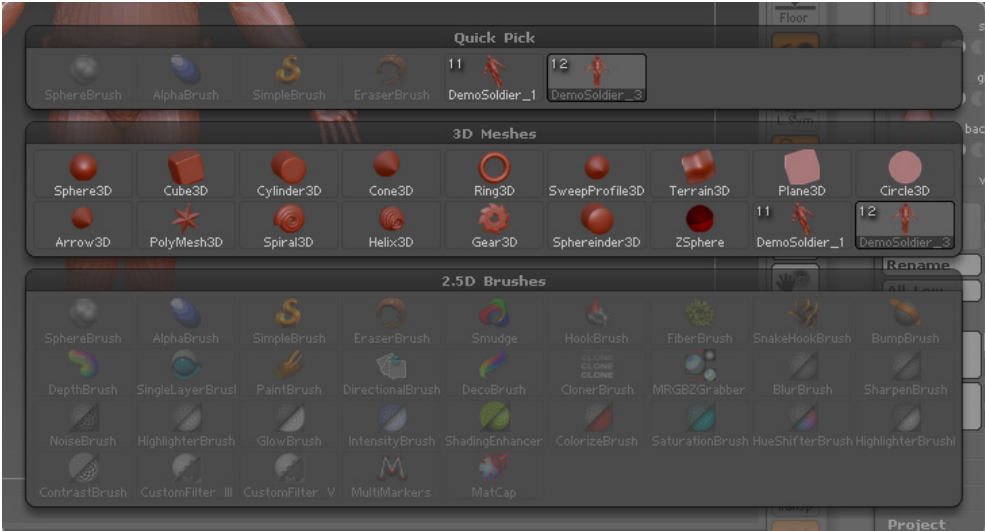


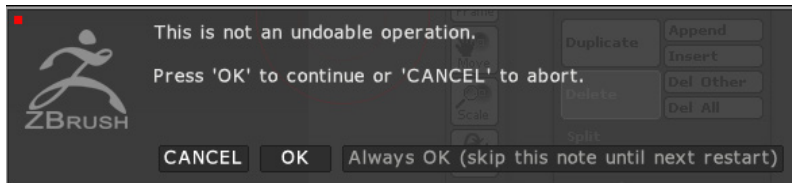
Figure 4-8 The flyout displayed on choosing the Append button



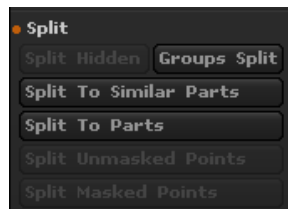
**Figure 4-9** A sphere inserted inside the model



**Figure 4-10** The thumbnail for the sphere displayed below the *vest* subtool



**Figure 4-11** The message box displayed on choosing the *Delete* button



**Figure 4-12** The *Split* area

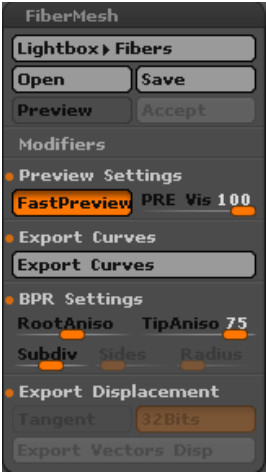


Figure 4-13 The FiberMesh subpalette

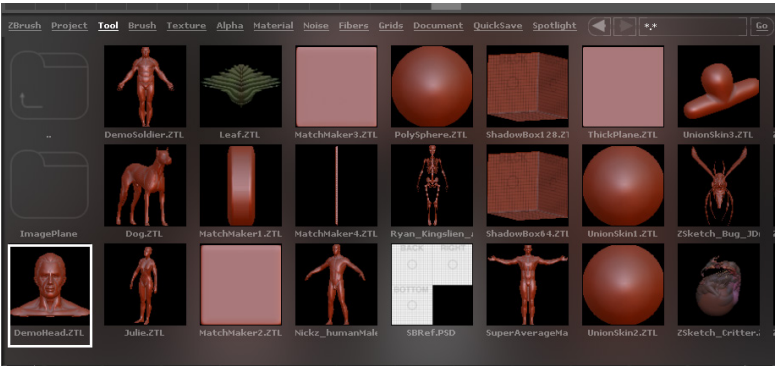


Figure 4-14 The DemoHead.ZTL file chosen from the LightBox browser





Figure 4-15 A mask drawn on the head of the model

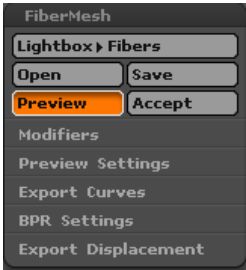


Figure 4-16 The *Preview* button chosen from the *FiberMesh* subpalette



Figure 4-17 The fiber mesh created on the masked area of the head



Figure 4-18 The *Modifiers* area

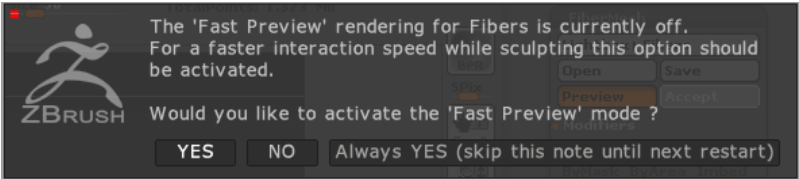


Figure 4-19 Message box displayed on choosing the **Accept** button



Figure 4-20 The final rendered preview of the fiber mesh

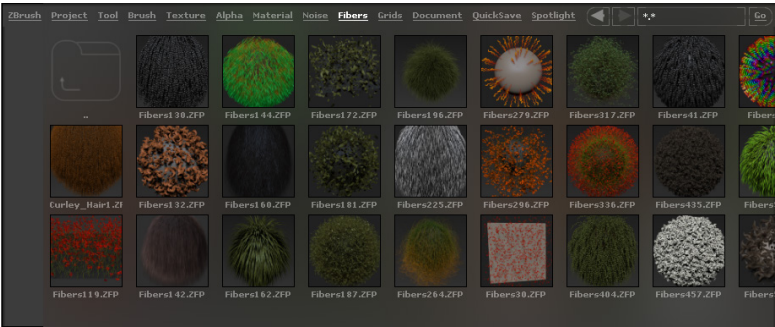
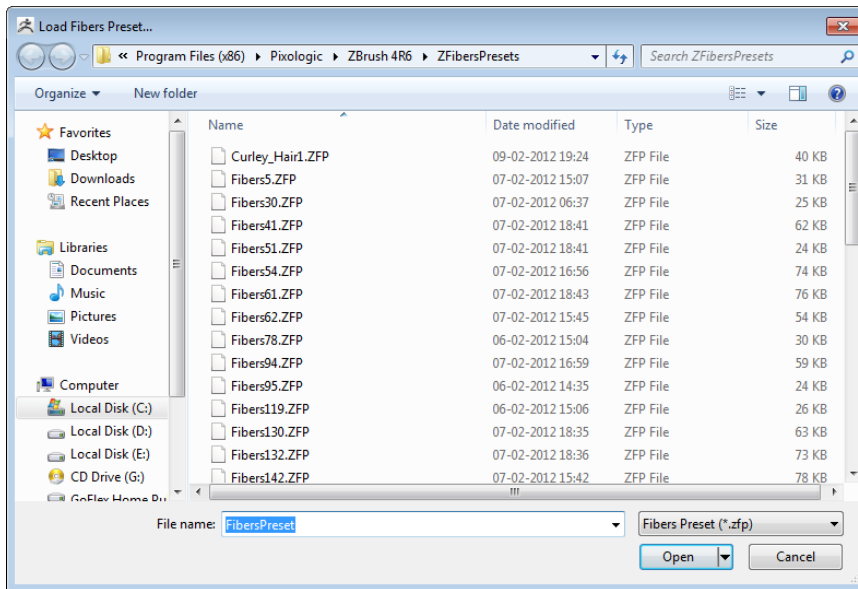
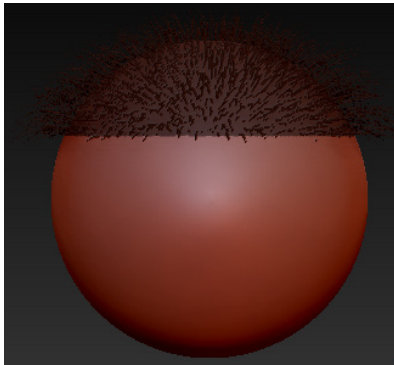


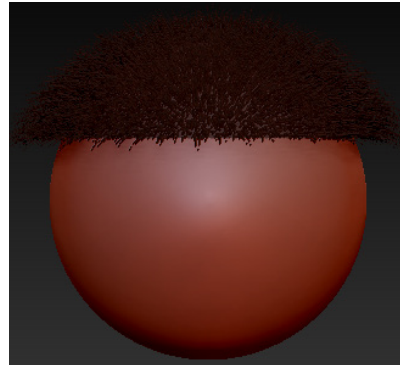
Figure 4-21 The inbuilt fibres in the LightBox browser



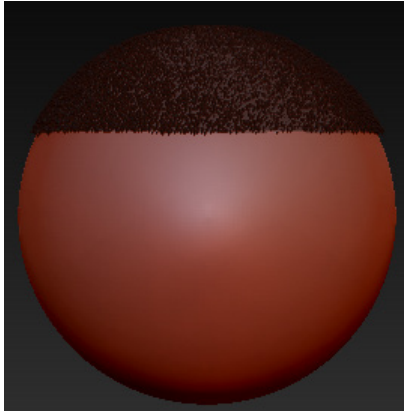
**Figure 4-22** The Load Fibers Preset dialog box



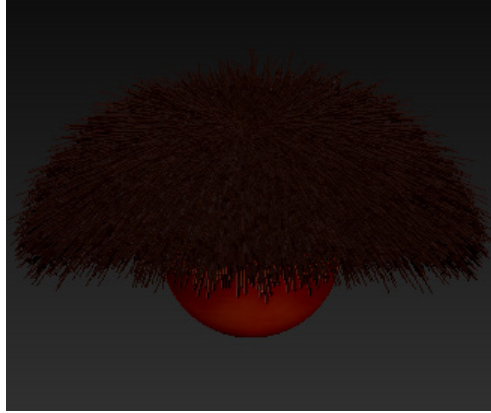
**Figure 4-23** The mesh containing 2000 fibers



**Figure 4-24** The mesh containing 10,000 fibers



*Figure 4-25* Fiber mesh with the value of the **Length** slider set to **50**



*Figure 4-26* Fiber mesh with the value of the **Length** slider set to **1000**



*Figure 4-27* The fiber mesh with the value of **Gravity** slider set to **1**



*Figure 4-28* Effect produced by the **GroomBlower** brush



*Figure 4-29* Effect produced by the **GroomClumps** brush



*Figure 4-30* Effect produced by the **GroomColorMild** brush



*Figure 4-31* Effect produced by the **GroomHairBall** brush



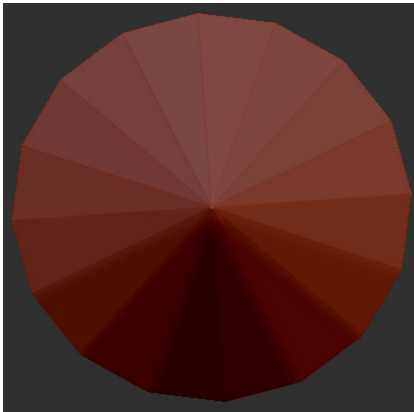
**Figure 4-32** Effect produced by *GroomHairToss* brush



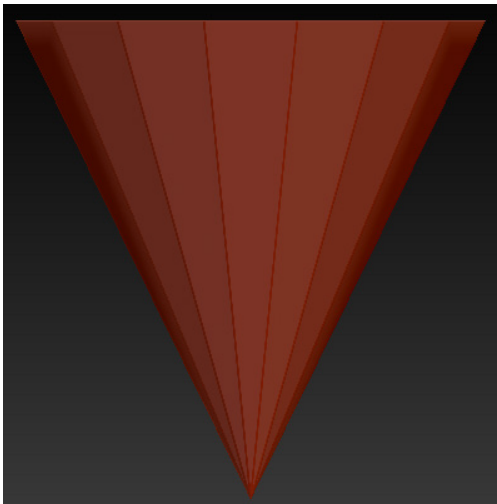
**Figure 4-33** Effect produced by *GroomSpike* brush



**Figure 4-34** The ice cream cone



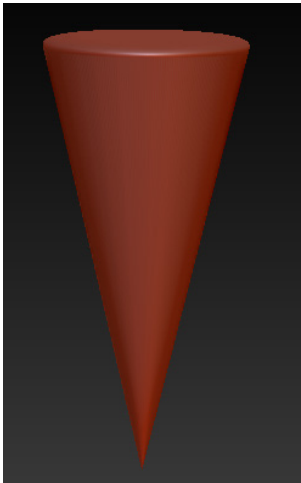
*Figure 4-35* The cone created in the canvas



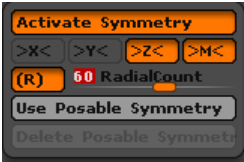
*Figure 4-36* The cone snapped to the canvas



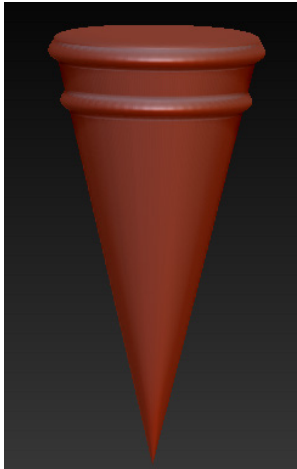
*Figure 4-37* The values in X Size and Y Size sliders set



*Figure 4-38* The ice cream cone smoothened



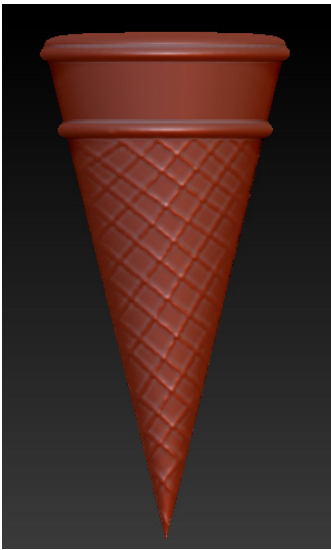
*Figure 4-39* The value of the RadialCount slider set to 60



*Figure 4-40* Patterns created at the top of the ice cream cone



*Figure 4-41* The **LazyMouse** button chosen from the **Stroke** palette

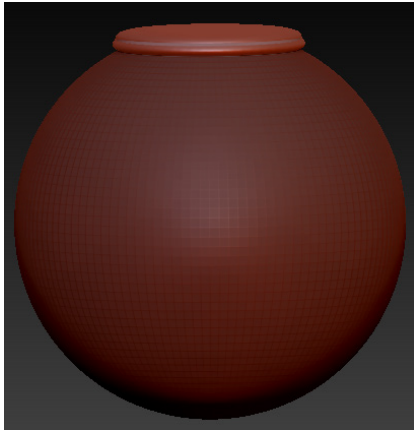


*Figure 4-42* The crisscross pattern created on the ice cream cone

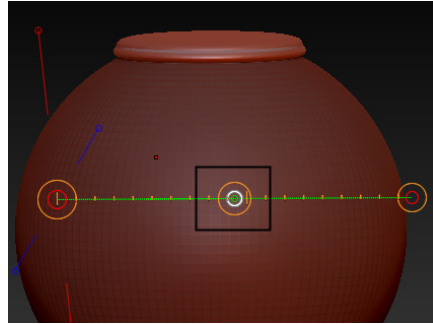


*Figure 4-43* The **Append** button chosen in the **SubTool** subpalette

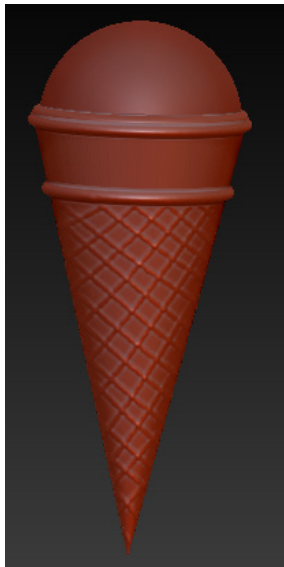




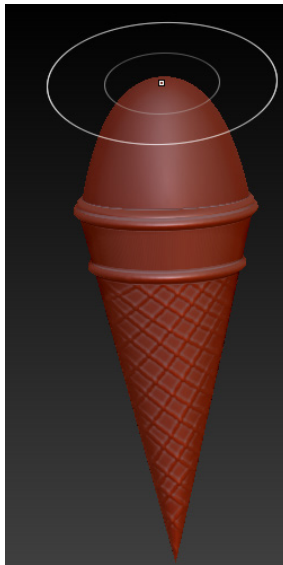
**Figure 4-44** The sphere overlapping with the ice cream cone



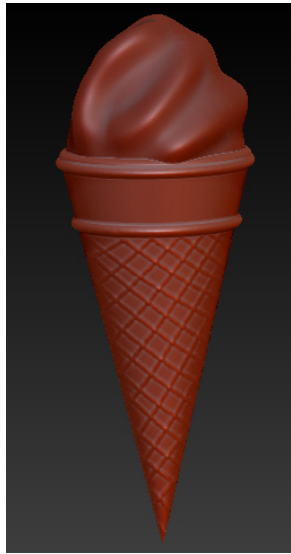
**Figure 4-45** The action line



**Figure 4-46** The scoop fitting inside the cone



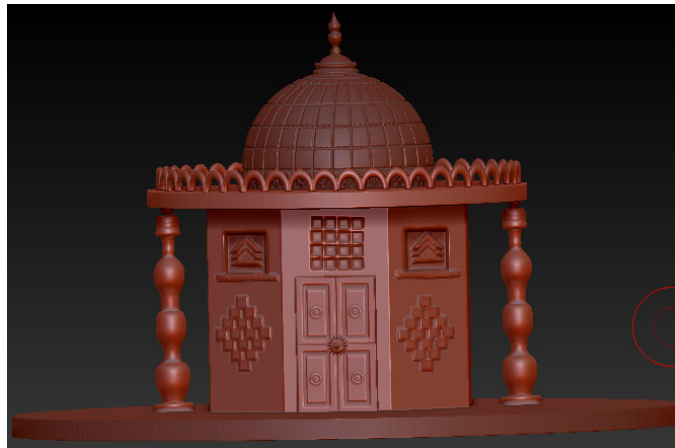
**Figure 4-47** The top portion of the scoop moved up using the **Move** brush



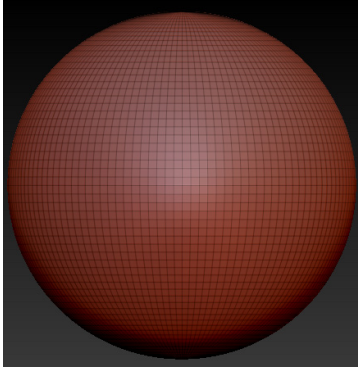
**Figure 4-48** Bumps created in the scoop using the **Standard** brush



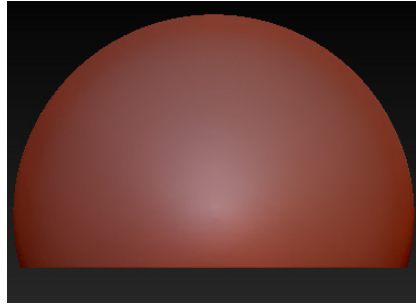
**Figure 4-49** Shape of the scoop modified using the **Spiral** brush



**Figure 4-50** The final model of the monument



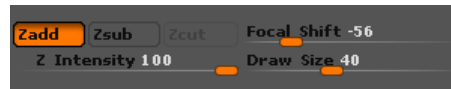
**Figure 4-51** The sphere snapped to the canvas



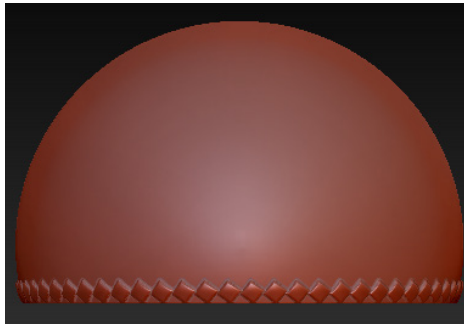
**Figure 4-52** The lower half of the dome deleted



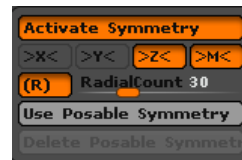
**Figure 4-53** Radial symmetry activated in Z-axis



**Figure 4-54** Settings in the top shelf



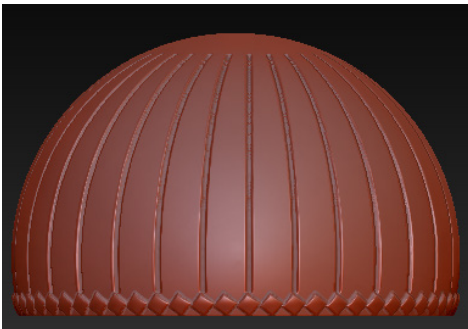
**Figure 4-55** Pattern created on the lower part of the dome



**Figure 4-56** The value of the *RadialCount* slider set to 30



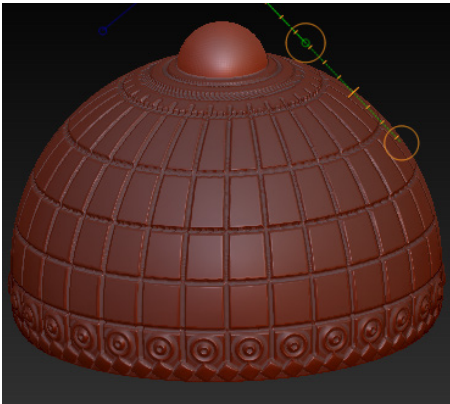
*Figure 4-57 Settings in the top shelf*



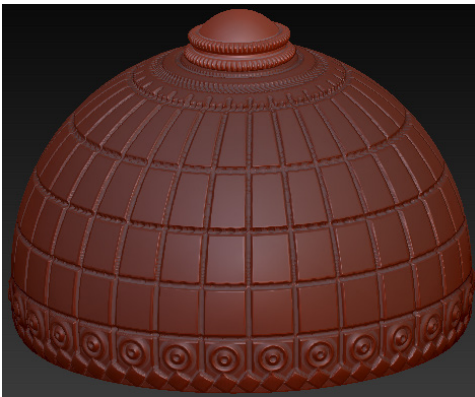
*Figure 4-58 Vertical lines created on the dome*



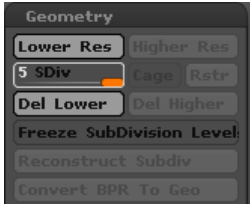
*Figure 4-59 Tiles created on the dome*



*Figure 4-60 The dome top scaled and moved to the top*



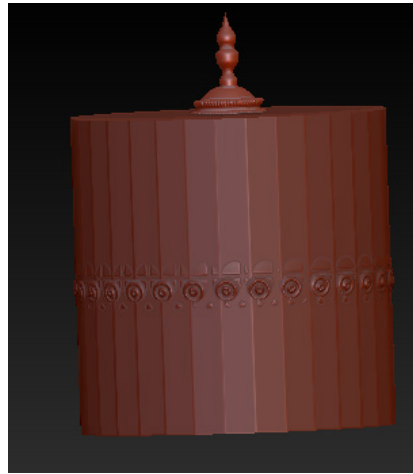
*Figure 4-61 Pattern created on the dome top using radial symmetry*



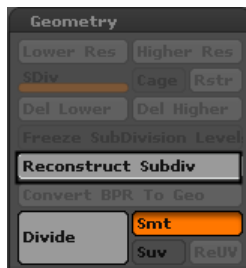
*Figure 4-62 The **Del Lower** button chosen in the **Geometry** subpalette*



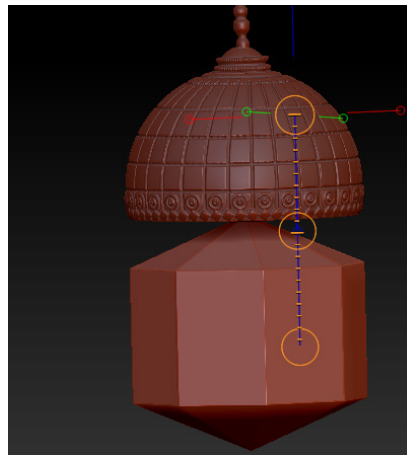
**Figure 4-63** Finial created on the dome top using the **CurveLathe** brush



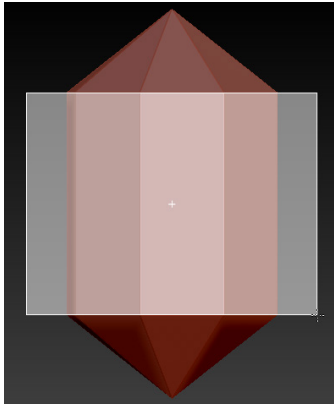
**Figure 4-64** Cylinder overlapping the dome



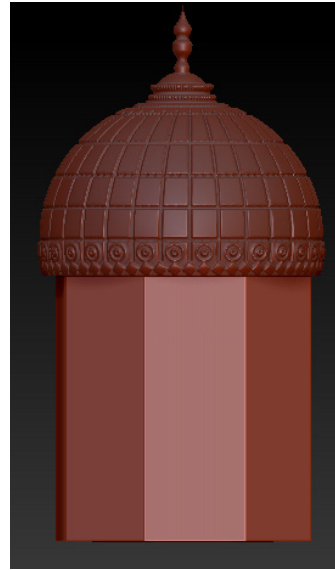
**Figure 4-65** Reconstruct Subdiv button chosen from the **Geometry** subpalette



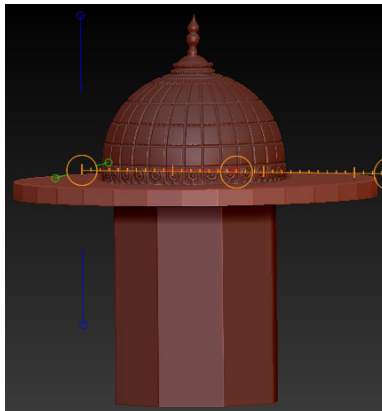
**Figure 4-66** The walls moved below the dome



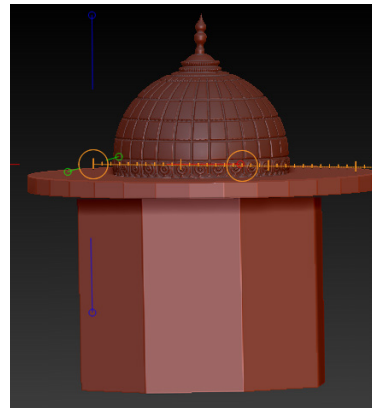
**Figure 4-67** Marquee selection on the walls



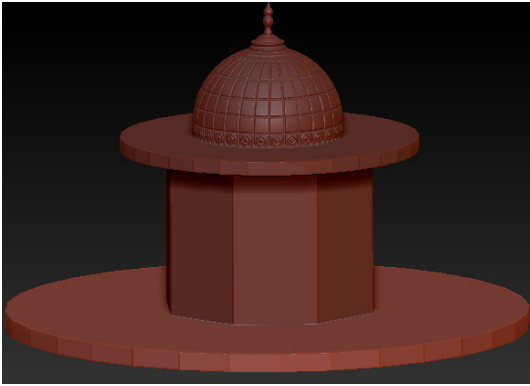
**Figure 4-68** The walls moved under the dome



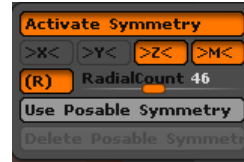
**Figure 4-69** The roof scaled and moved below the dome



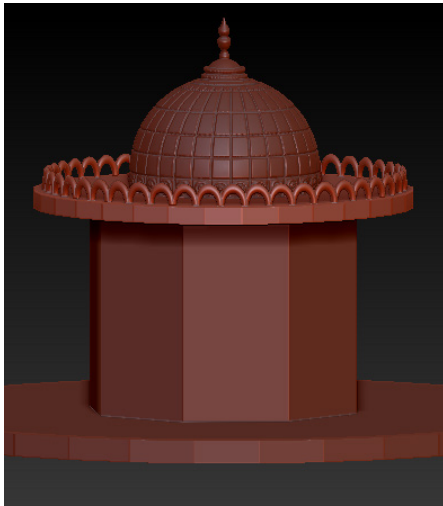
**Figure 4-70** The size of the walls increased along X and Y axes



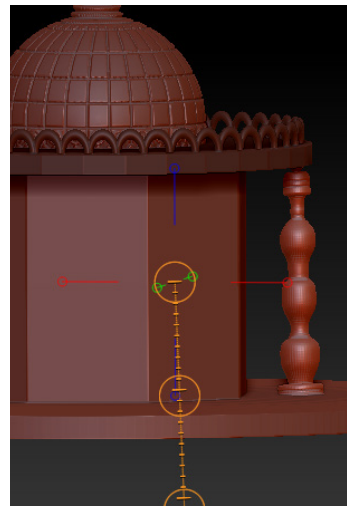
**Figure 4-71** Duplicate roof scaled along the X and Y axes



**Figure 4-72** The value of *RadialCount* slider set to 46



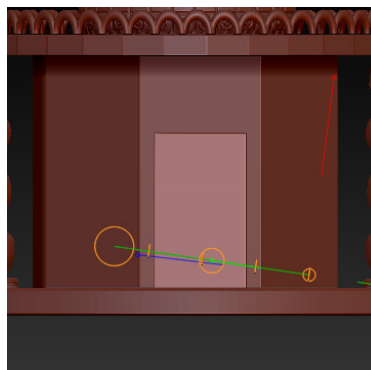
**Figure 4-73** Railing created using the *InsertHRing* brush



**Figure 4-74** Pillar created using the *CurveLathe* brush



**Figure 4-75** Copy of the pillar created and moved toward left

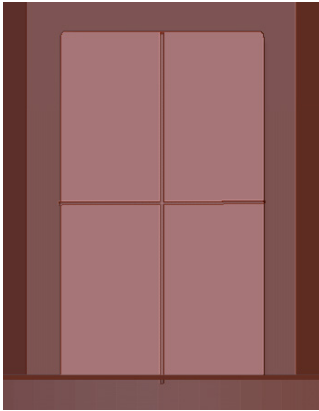


**Figure 4-76** The door moved using the action line

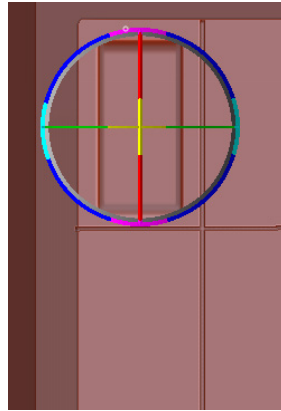


**Figure 4-77** The *Deformation* check box selected





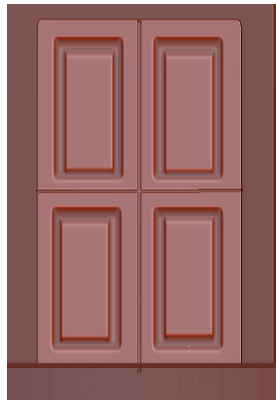
**Figure 4-78** Horizontal and vertical partitions created on the door



**Figure 4-79** The pattern scaled up



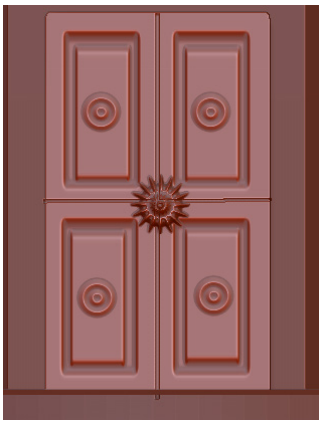
**Figure 4-80** Pattern created on all the panels



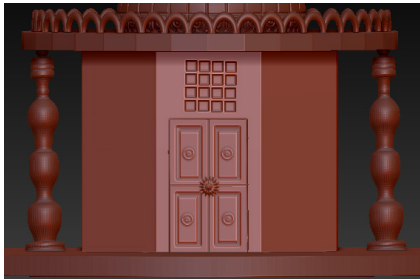
**Figure 4-81** Newly created pattern copied on all the panels



**Figure 4-82** Pattern created on all the panels



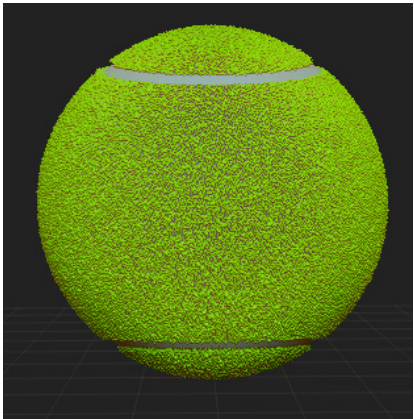
**Figure 4-83** Knob of the door created



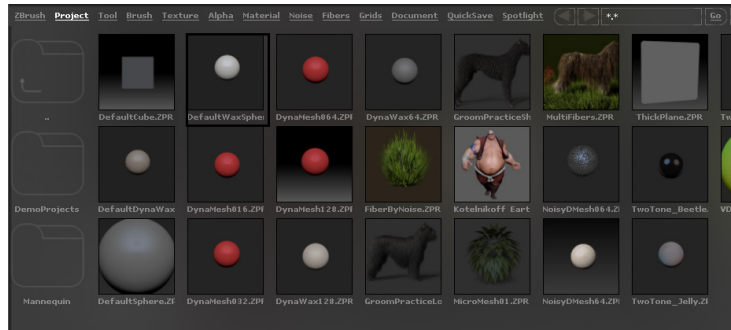
**Figure 4-84** Grid pattern created on the walls



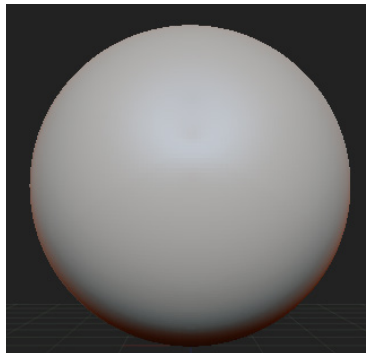
**Figure 4-85** The final model of the monument



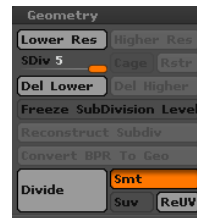
**Figure 4-86** The final model of the tennis ball



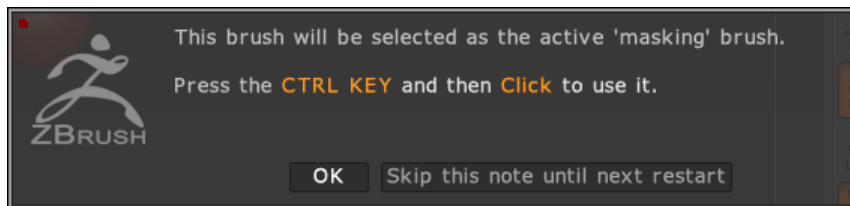
*Figure 4-87 The **DefaultWaxSphere.ZPR** file chosen from the LightBox browser*



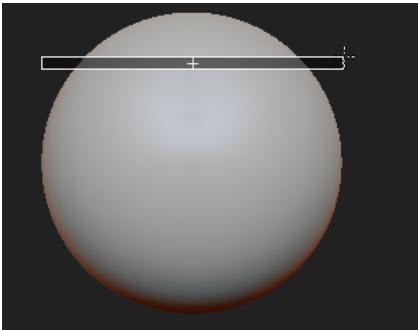
*Figure 4-88 The **DefaultWaxSphere** created in the canvas*



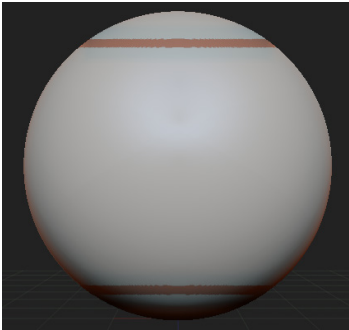
*Figure 4-89 Choosing the **Divide** button from the **Geometry** subpalette*



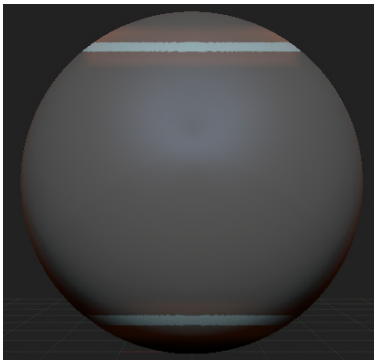
*Figure 4-90 Message box displayed on choosing the **MaskRect** brush*



*Figure 4-91* Upper part of the tennis ball selected



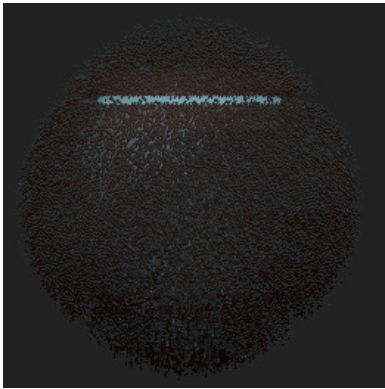
*Figure 4-92* Mask created on lower and upper parts of the tennis ball



*Figure 4-93* Mask on the tennis ball inverted



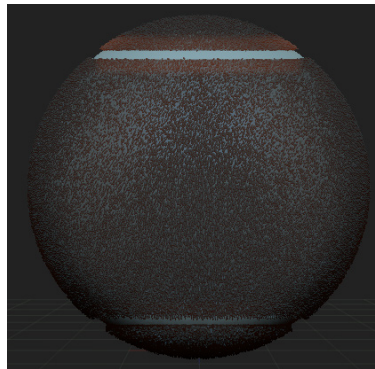
*Figure 4-94* Choosing the **Preview** button from the **FiberMesh** subpalette



*Figure 4-95* Fibrous mesh displayed on the tennis ball



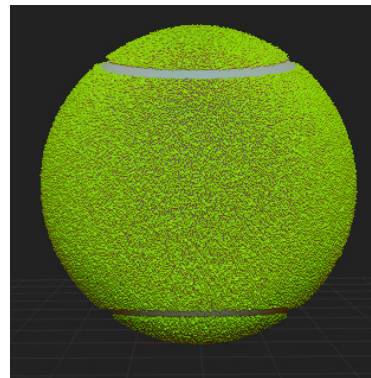
*Figure 4-96 The value in the **Length** edit box set to 20*



*Figure 4-97 Length of the fibers decreased*



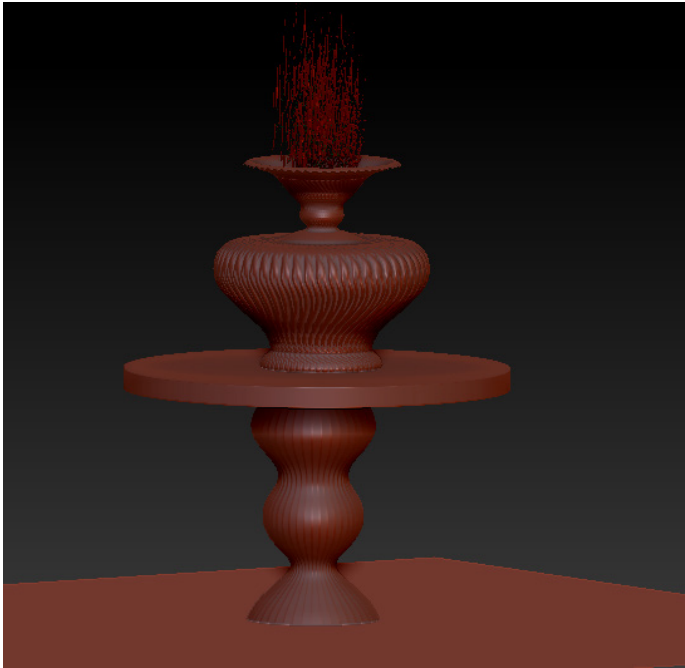
*Figure 4-98 Color chosen from the color picker window*



*Figure 4-99 The color of the fibers changed to green*



*Figure 4-100 Model of a house*



*Figure 4-101 Scene to be created for Exercise 2*

# ***Chapter 5***

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## ***ZSpheres***



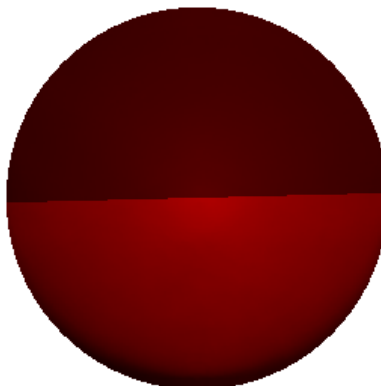


*Figure 5-1 The value of the Range slider set to 0*

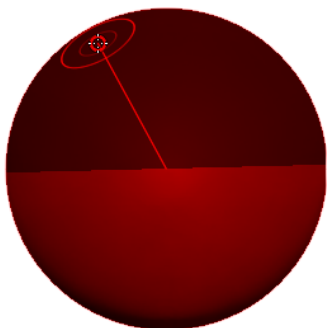


*Figure 5-2 ZSphere chosen from the 3D Meshes area of the flyout*

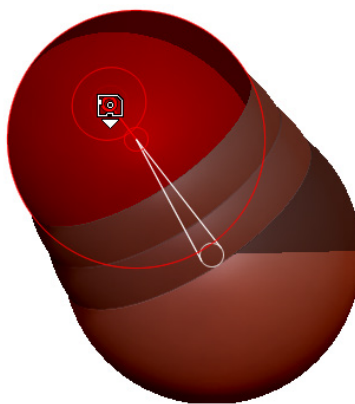




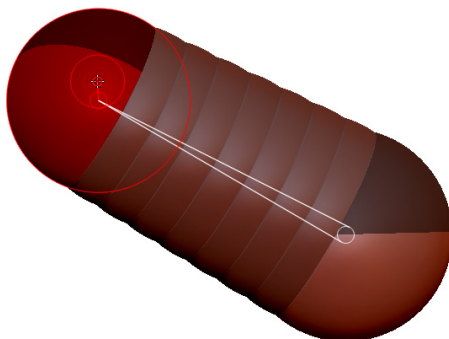
**Figure 5-3** A double colored sphere created in the canvas



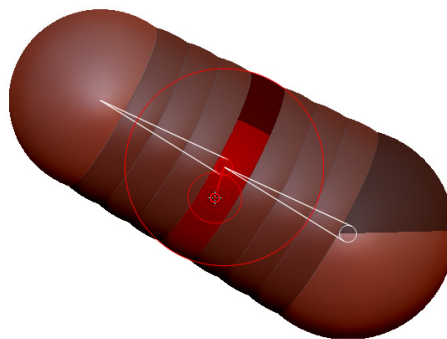
**Figure 5-4** Concentric circles displayed on the surface of ZSphere



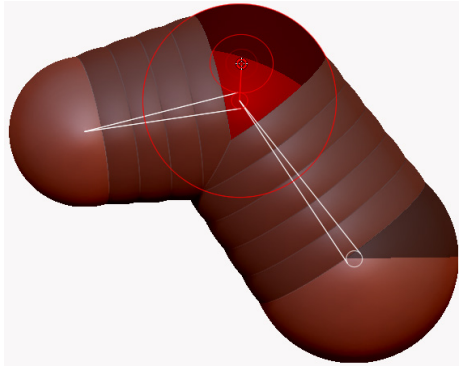
**Figure 5-5** New ZSphere created



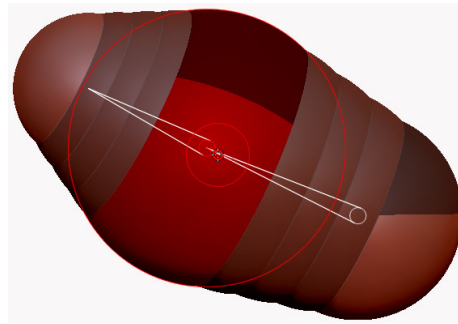
**Figure 5-6** Newly created ZSphere moved away from the previous ZSphere



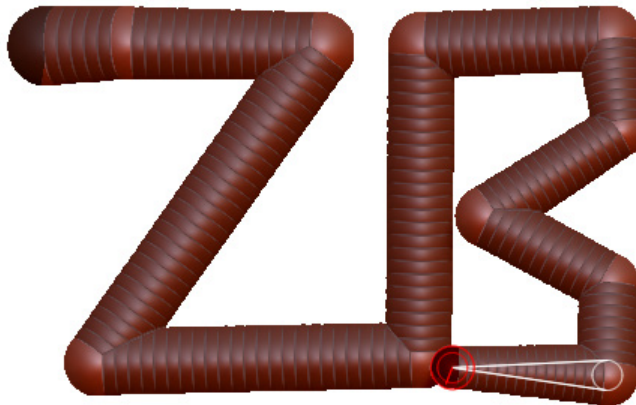
**Figure 5-7** Linked sphere converted into an editable ZSphere



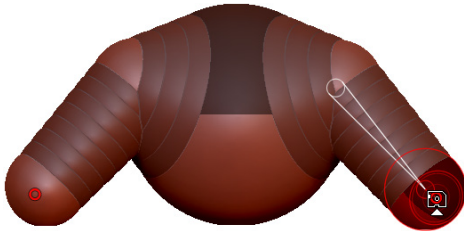
**Figure 5-8** The ZSphere moved using the *Move* button



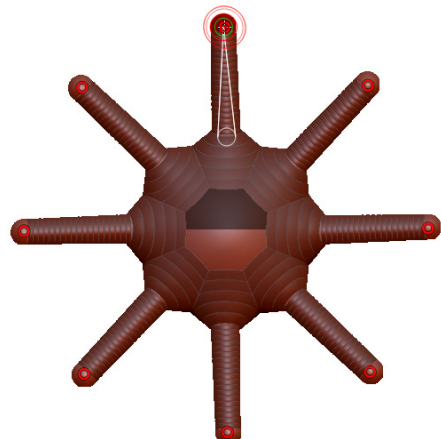
**Figure 5-9** The ZSphere scaled using the *Scale* button



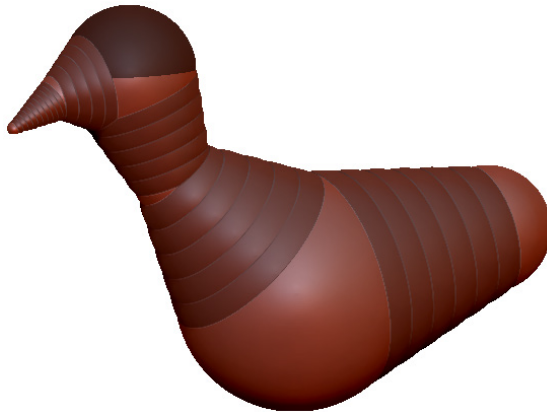
**Figure 5-10** Structure created using ZSpheres



**Figure 5-11** Similar ZSpheres created by activating the symmetry in X axis



**Figure 5-12** Similar ZSpheres created by activating the radial symmetry



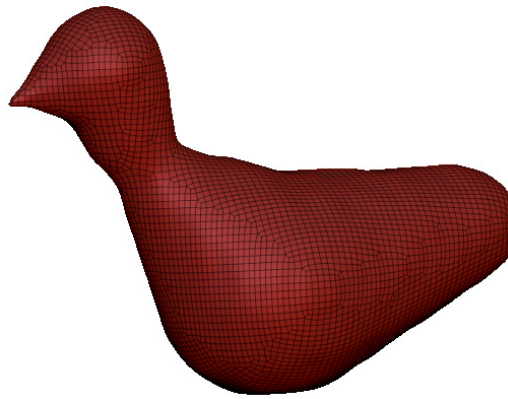
**Figure 5-13** ZSphere structure created in the canvas



**Figure 5-14** The thumbnail for the ZSphere displayed



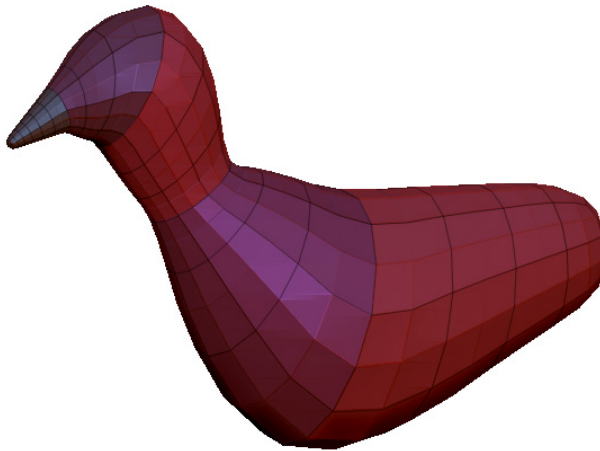
*Figure 5-15 The Unified Skin subpalette expanded*



*Figure 5-16 The skinned mesh after choosing the PolyF button*



*Figure 5-17 The Adaptive Skin subpalette chosen*



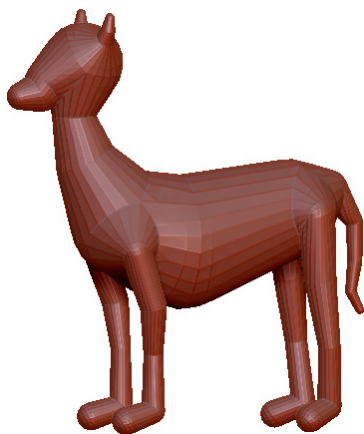
*Figure 5-18 The skinned mesh after choosing the PolyF button*



**Figure 5-19** The ZSphere structure



**Figure 5-20** The preview of the ZSphere structure



**Figure 5-21** Preview of the mesh with the value of the **Density** slider set to 1



**Figure 5-22** Preview of the mesh with the value of the **Density** slider set to 7



**Figure 5-23** Preview of the mesh with the value of the **G Radial** slider set to 4



**Figure 5-24** Preview of the mesh with the value of the **G Radial** slider set to 20



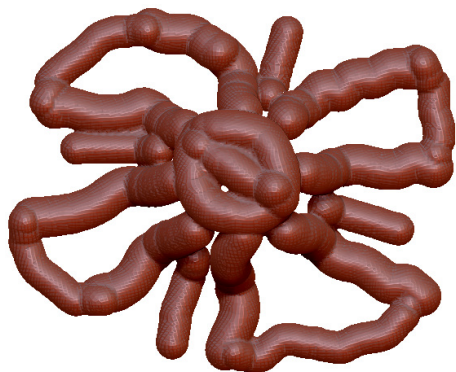
**Figure 5-25** The **ZSketch** subpalette in the **Tool** palette



**Figure 5-26** The color of the **ZSphere** changed



**Figure 5-27** Different shapes created using the strips of **ZSpheres**



**Figure 5-28** Polymesh preview of the ZSketch



**Figure 5-29** A structure created using ZSpheres

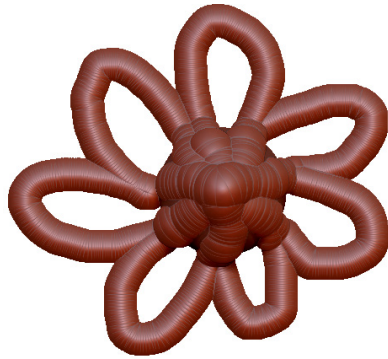


**Figure 5-30** ZSketching done on the surface of the structure

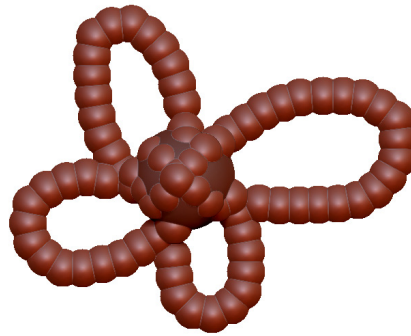


**Figure 5-31** Transparency in the sketched strips

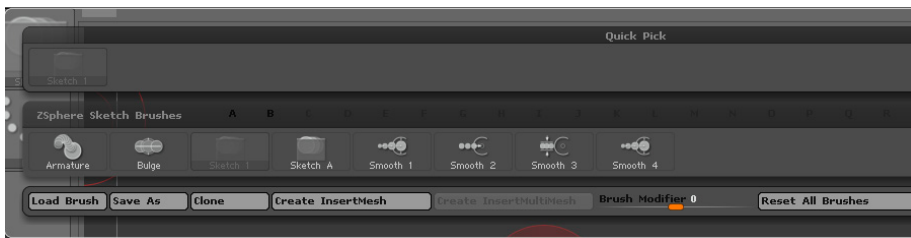




*Figure 5-32 Strips with the value of the **Min Dist** slider set to 0.1*



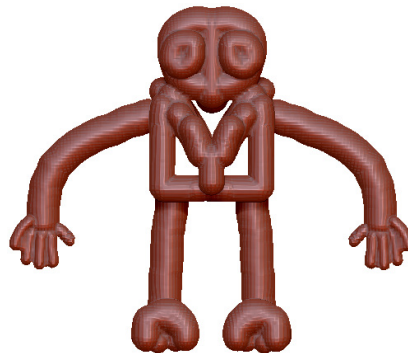
*Figure 5-33 Strips with the value of the **Min Dist** slider set to 1*



*Figure 5-34 Flyout displayed on choosing the **Current Brush** button*

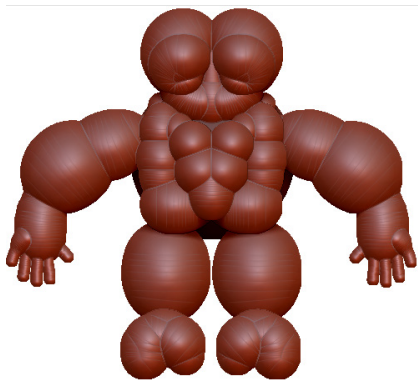


*Figure 5-35 Strips created using the **Armature** brush*



*Figure 5-36 The skinned preview of the strips*





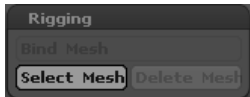
**Figure 5-37** Strips bulged out using the *Bulge* brush



**Figure 5-38** Strips smoothened using the *Smooth 1* brush



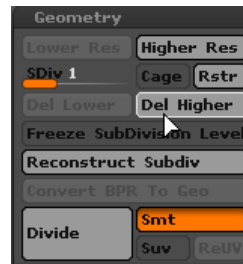
**Figure 5-40** The *DemoSoldier.ZTL* file created in the canvas



**Figure 5-39** The *Rigging* subpalette



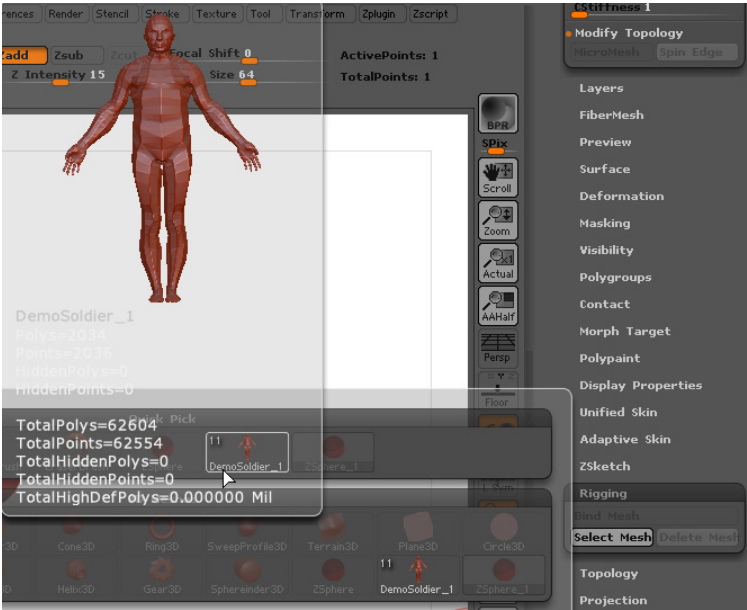
*Figure 5-41 The DemoSoldier\_1 subtool chosen from the SubTool subpalette*



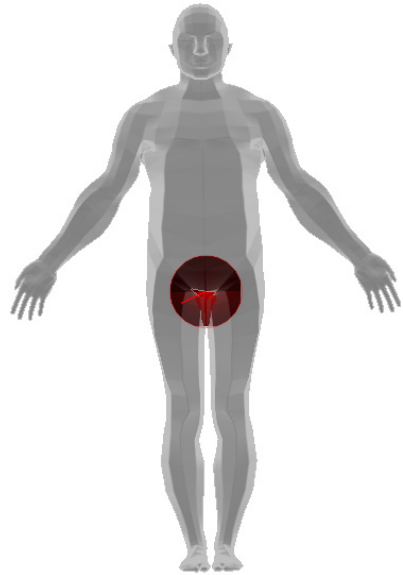
*Figure 5-42 The Del Higher button chosen from the Geometry subpalette*



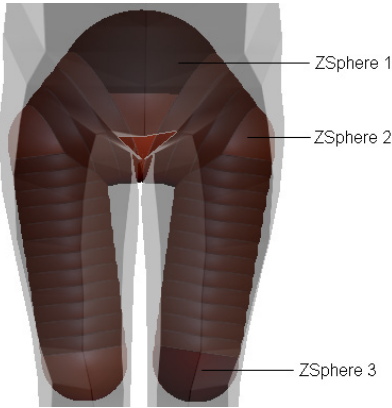
*Figure 5-43 ZSphere primitive chosen from the 3D Meshes area of the flyout*



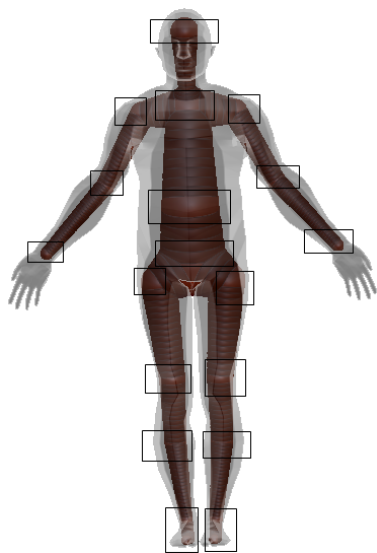
*Figure 5-44 DemoSoldier\_1 chosen from the flyout*



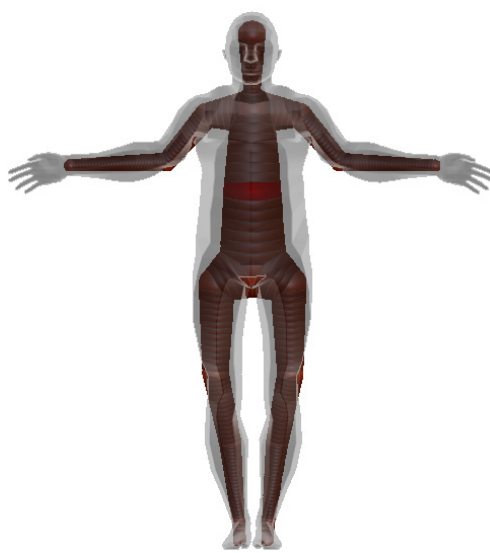
*Figure 5-45 The transparent model displayed in the canvas*



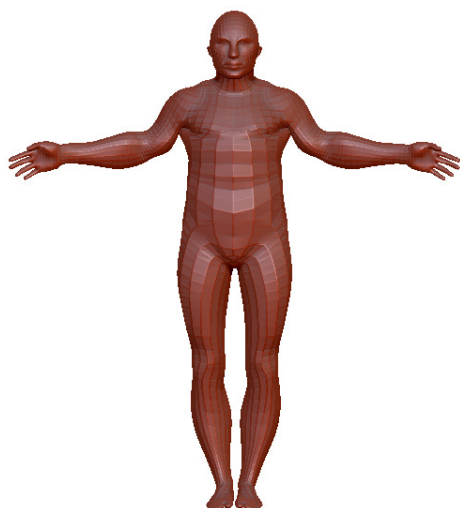
*Figure 5-46 Structure created using the ZSpheres*



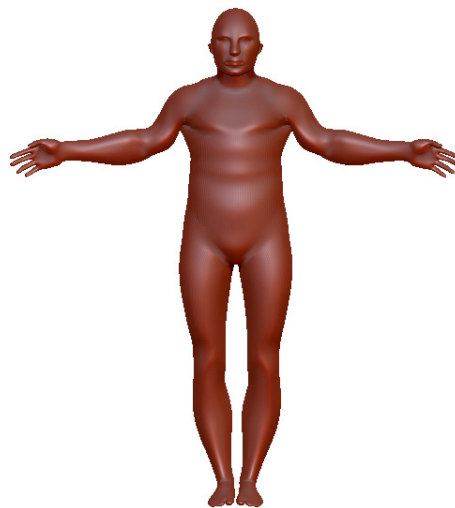
**Figure 5-47** Structure created inside the transparent model



**Figure 5-48** Bend created in the elbow of the model



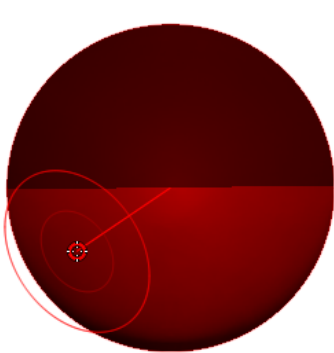
**Figure 5-49** The skinned model displayed in the canvas



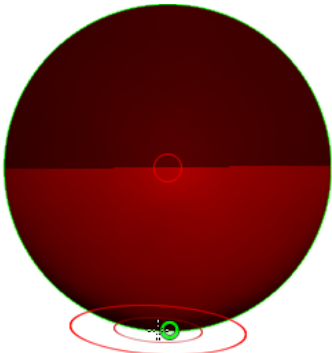
**Figure 5-50** The model smoothened by setting the value of the *SDiv* slider to 5



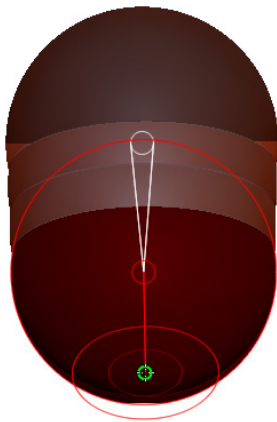
*Figure 5-51 Basic shape of the human body*



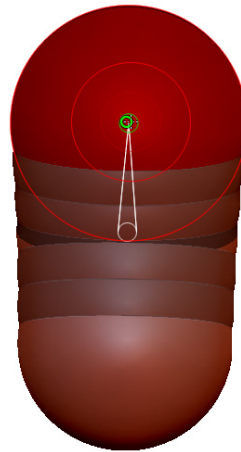
*Figure 5-52 ZSphere created in the canvas*



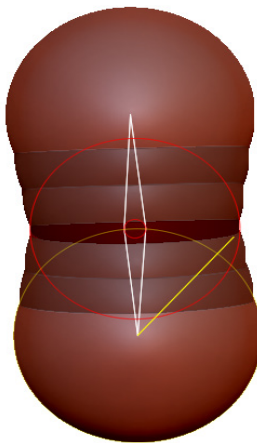
*Figure 5-53 Green circle displayed*



**Figure 5-54** Second ZSphere created below the existing ZSphere



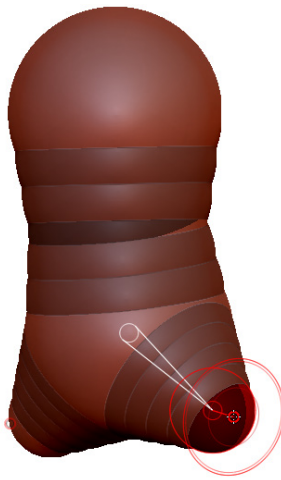
**Figure 5-55** Third ZSphere created above the existing ZSphere



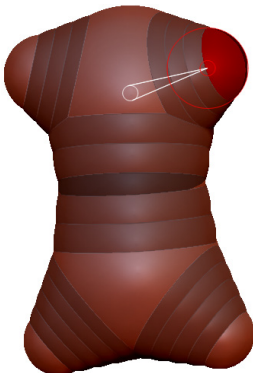
**Figure 5-56** Middle most ZSphere scaled using the **Scale** button



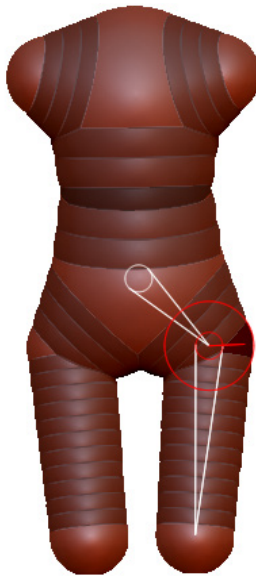
**Figure 5-57** ZSphere created for the hips



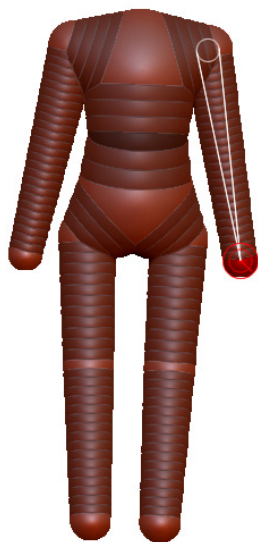
**Figure 5-58** Positioning ZSphere in the side view



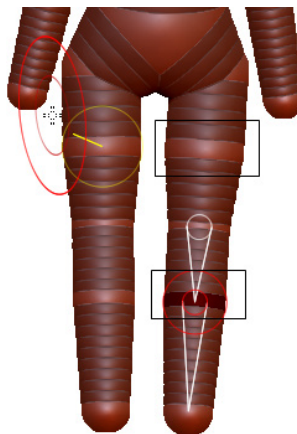
**Figure 5-59** ZSphere created for the shoulders



**Figure 5-60** ZSphere created and moved downward



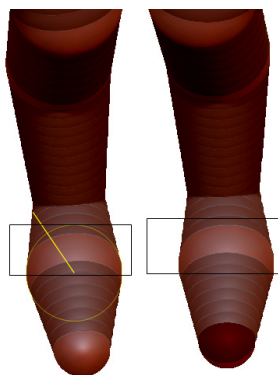
**Figure 5-61** ZSpheres created for the legs and the arms



**Figure 5-62** Two new ZSpheres inserted and scaled

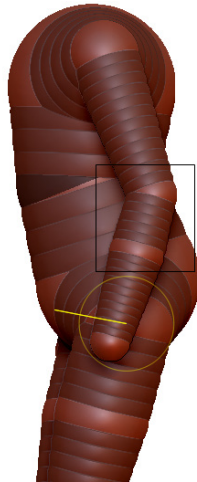


**Figure 5-63** The ZSpheres adjusted in the side view

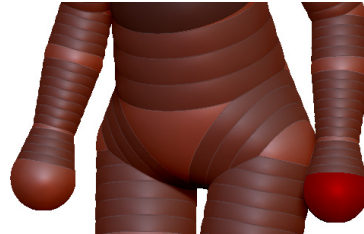


**Figure 5-64** Middle ZSphere scaled up

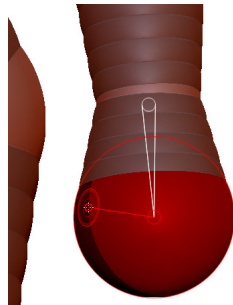




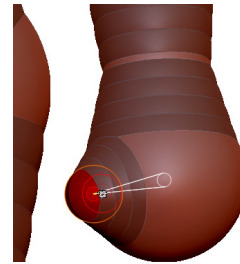
**Figure 5-65** Two new ZSpheres inserted and positioned in the side view



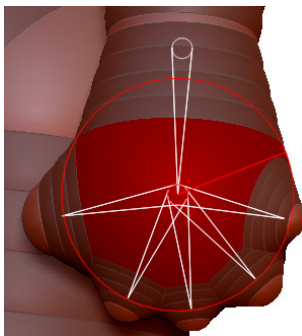
**Figure 5-66** New ZSphere created for the palm and moved downwards



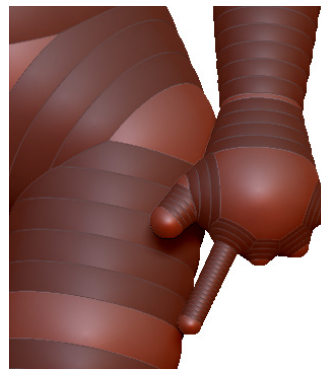
**Figure 5-67** Cursor hovered at the area dividing the red and maroon tones of the ZSphere



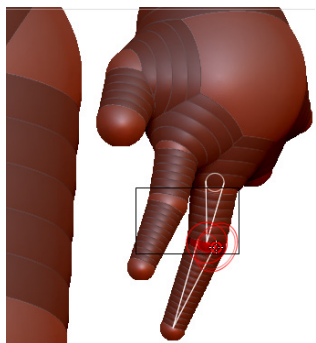
**Figure 5-68** ZSphere created and moved outward



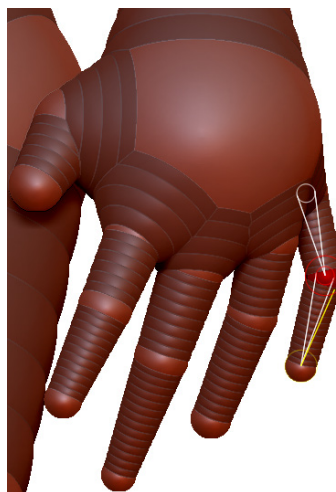
**Figure 5-69** Knuckles created for all the fingers of the hand



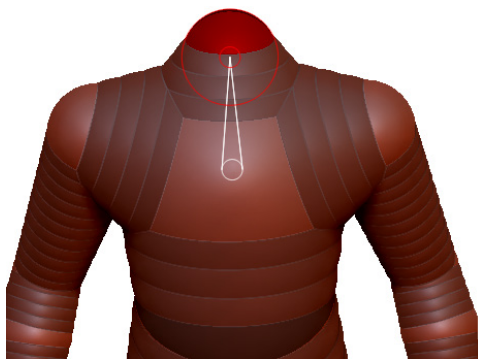
**Figure 5-70** Thumb and index finger created by creating ZSpheres and moving them outward



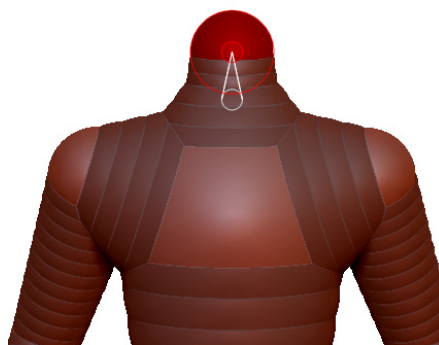
**Figure 5-71** Two new ZSpheres inserted in the index finger and the middle finger



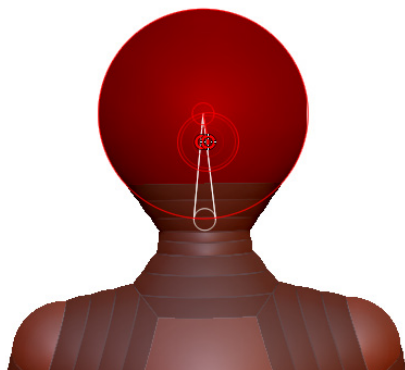
**Figure 5-72** Ring finger and the little finger created using ZSpheres



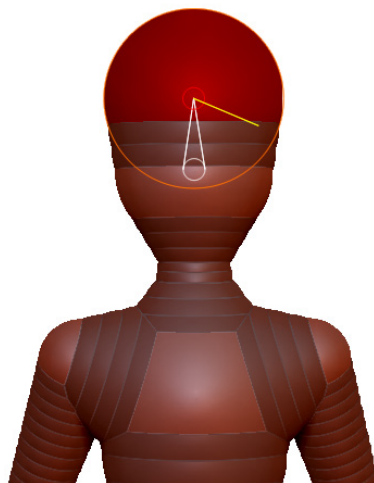
**Figure 5-73** ZSphere created for the lower part of the neck



**Figure 5-74** Second ZSphere created for the upper part of the neck



**Figure 5-75** ZSphere created for the lower part of the head



**Figure 5-76** ZSphere created for the upper part of the head



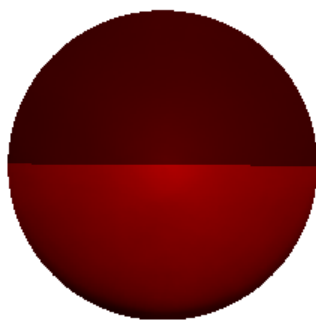
**Figure 5-77** Final model of the body



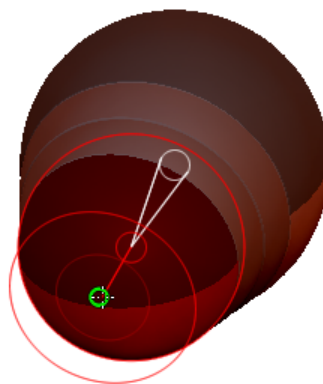
**Figure 5-78** Skinned preview of the body



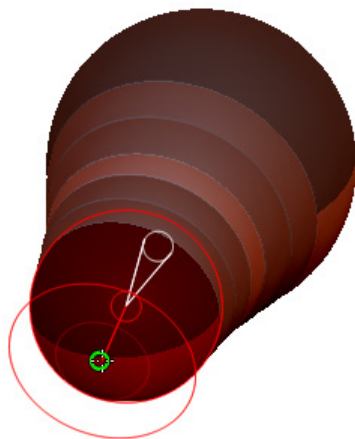
**Figure 5-79** Basic shape of the head of stag deer



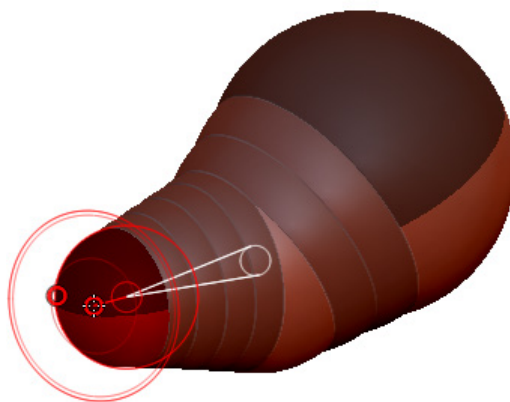
**Figure 5-80** ZSphere created in the canvas



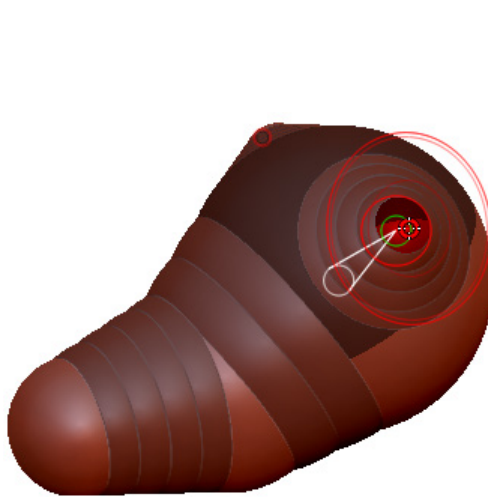
**Figure 5-81** ZSphere created at the center



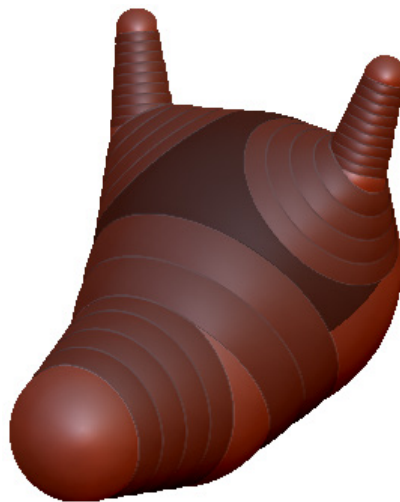
**Figure 5-82** Third Zsphere created



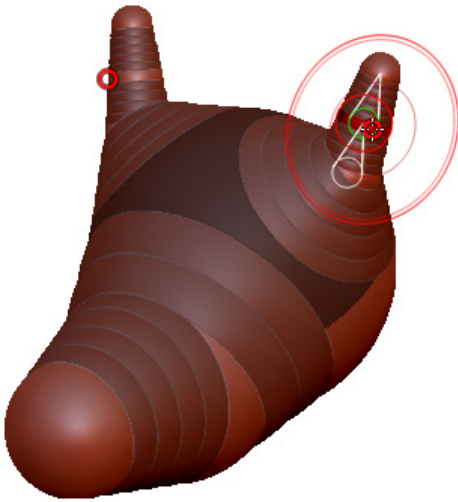
**Figure 5-83** Zsphere moved upward



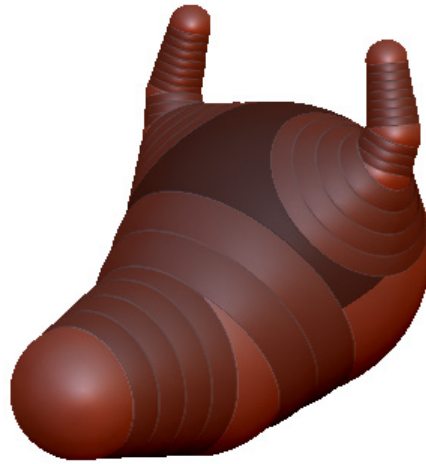
**Figure 5-84** Zsphere drawn for the ear



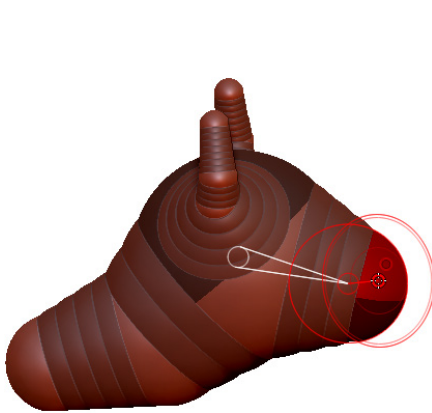
**Figure 5-85** Zsphere drawn and moved up



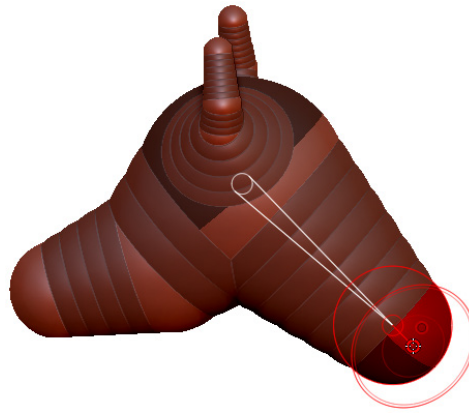
*Figure 5-86 ZSphere inserted at the centre*



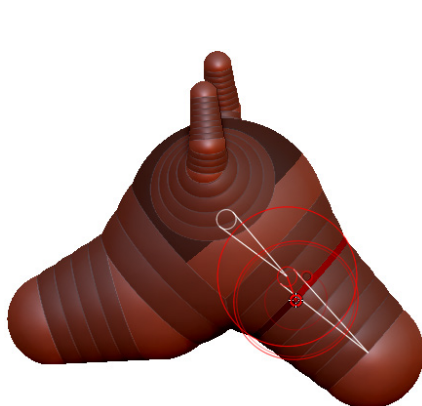
*Figure 5-87 ZSphere moved outward*



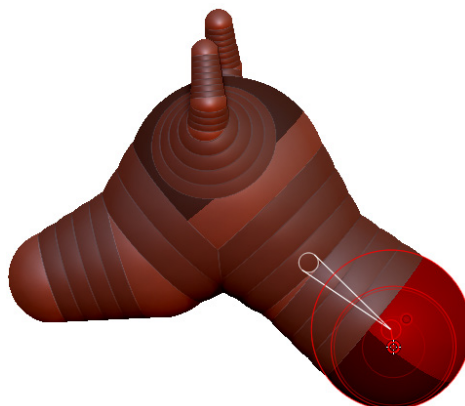
*Figure 5-88 ZSphere created for the neck*



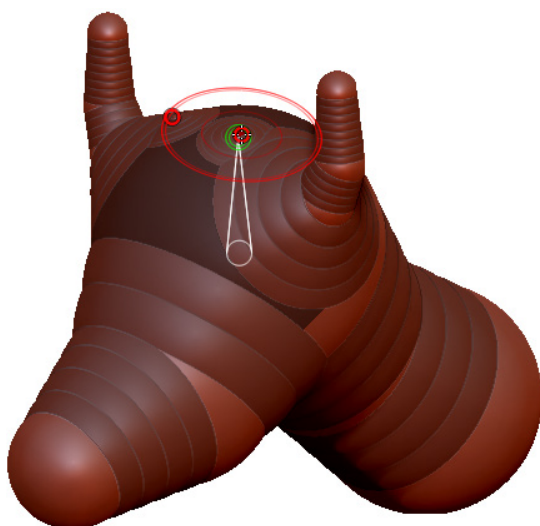
*Figure 5-89 ZSphere moved outward*



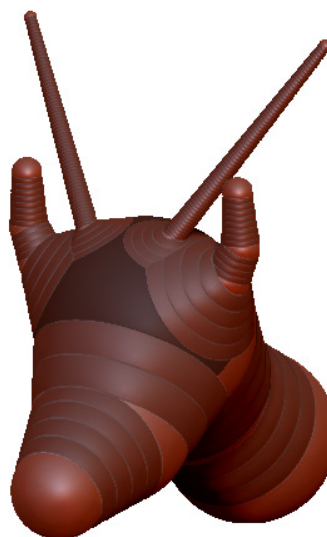
**Figure 5-90** ZSphere inserted in the neck and scaled down



**Figure 5-91** ZSphere scaled up

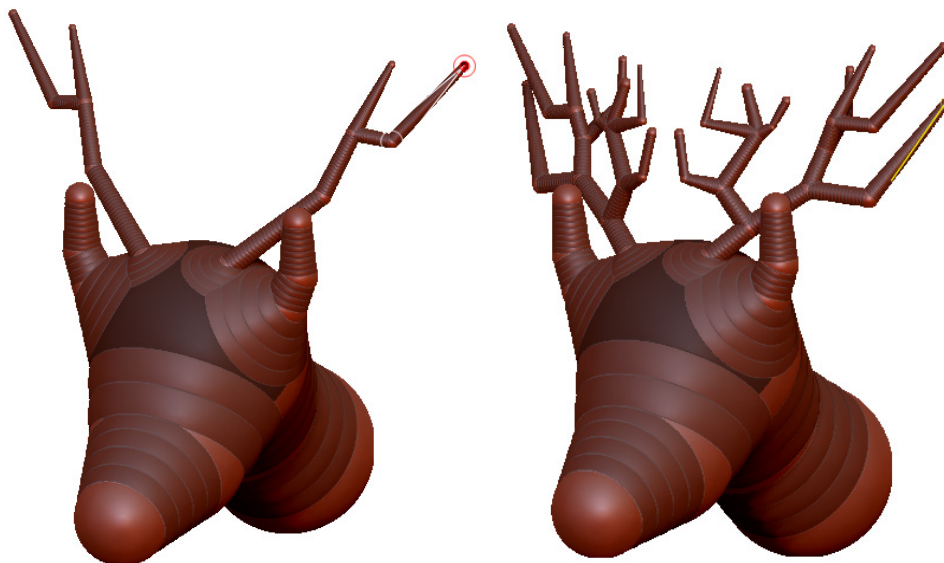


**Figure 5-92** ZSphere created for the antler



**Figure 5-93** ZSphere created and moved up





*Figure 5-94* New ZSpheres created and moved

*Figure 5-95* Antlers of the deer created



*Figure 5-96* Model of a tree





*Figure 5-97 Scene to be created for Exercise 2*

# ***Chapter 6***

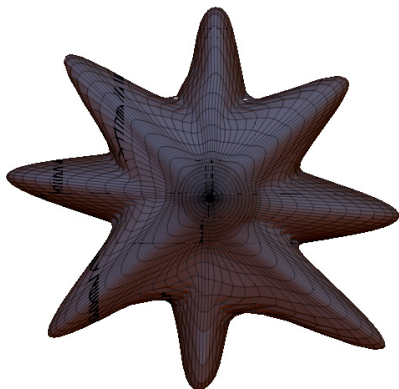
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## ***DynaMesh and ZRemesher***

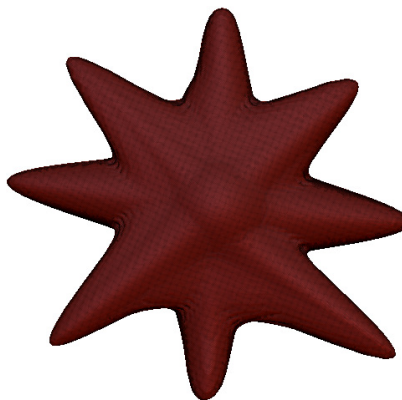




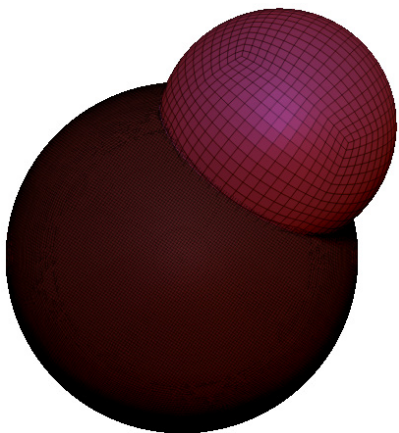
*Figure 6-1 DynaMesh area in the Geometry subpalette*



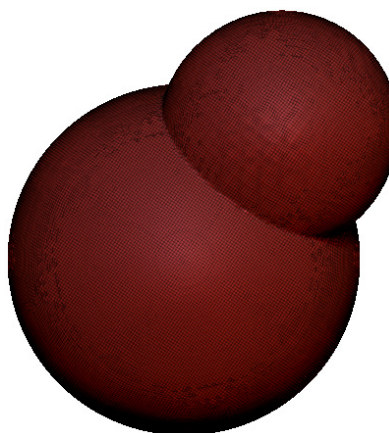
*Figure 6-2 The sphere deformed using the Move brush*



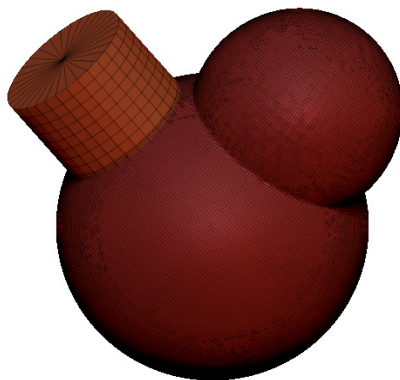
*Figure 6-3 The stretched polygons distributed uniformly*



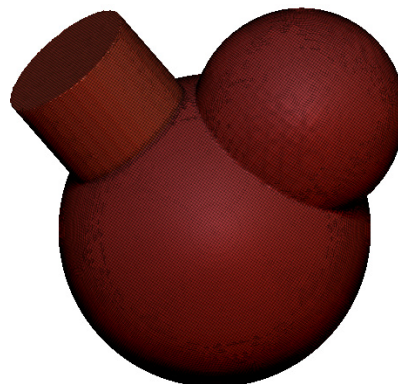
*Figure 6-4 A sphere inserted using the InsetSphere brush*



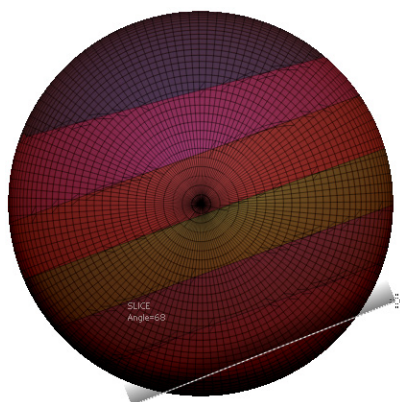
*Figure 6-5 Inserted sphere merged with the existing sphere*



**Figure 6-6** Cylinder inserted using the *InsertSphere* brush



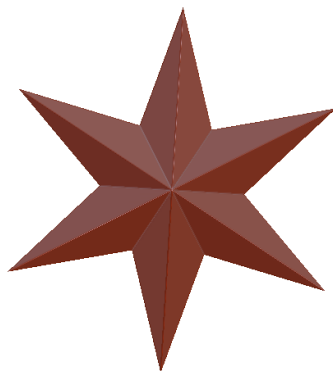
**Figure 6-7** New group created for the inserted cylinder



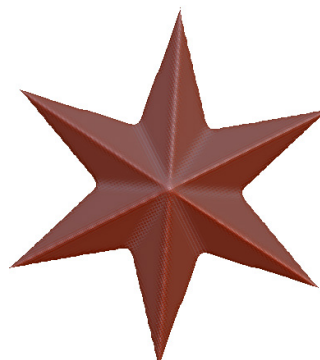
**Figure 6-8** Groups created using the *SliceCurve* brush



**Figure 6-9** Split groups visible in the sphere



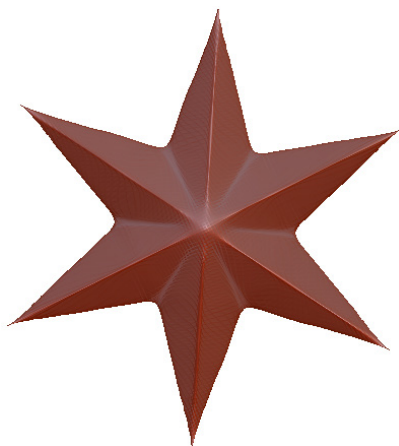
**Figure 6-10** The *PolyMesh3D* primitive created in the canvas



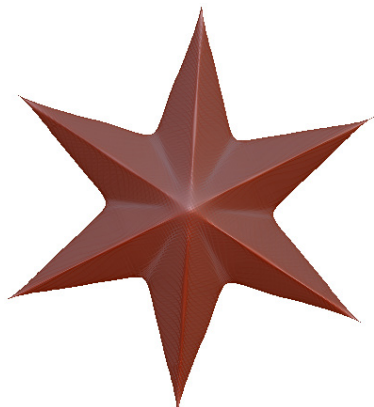
**Figure 6-11** The *PolyMesh3D* primitive converted into DynaMesh



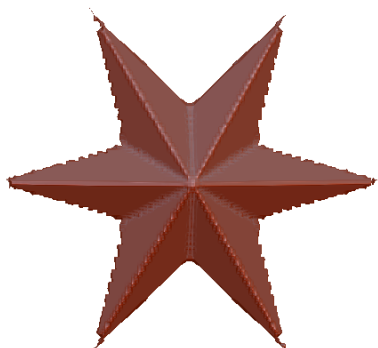
*Figure 6-12 The DynaMesh and the Polish buttons chosen*



*Figure 6-13 The primitive converted into DynaMesh*



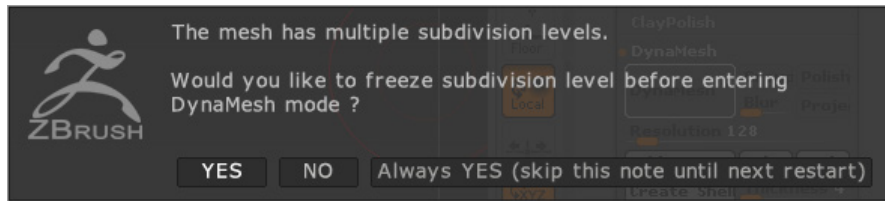
*Figure 6-14 The DynaMesh with the value of Blur slider set to 4*



*Figure 6-15 The DynaMesh with the value of Blur slider set to 100*



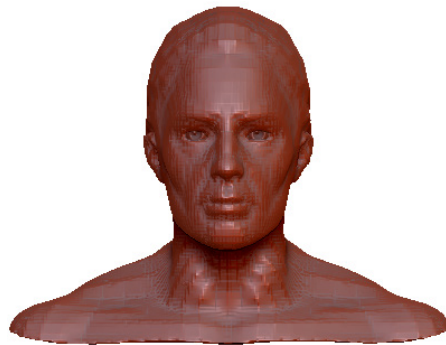
*Figure 6-16 The DemoHead.ZTL file created in the canvas*



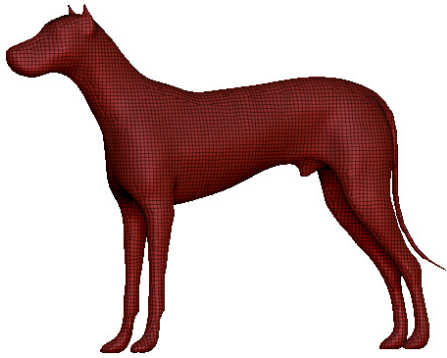
*Figure 6-17 The message box displayed on choosing the **DynaMesh** button*



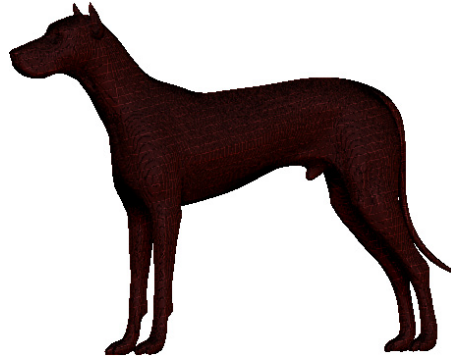
*Figure 6-18 The details lost on choosing the **DynaMesh** button*



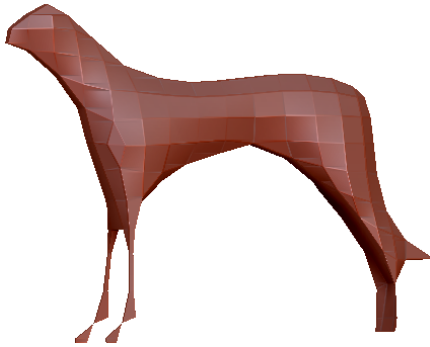
*Figure 6-19 The details retained on choosing the **DynaMesh** button with the **Project** button*



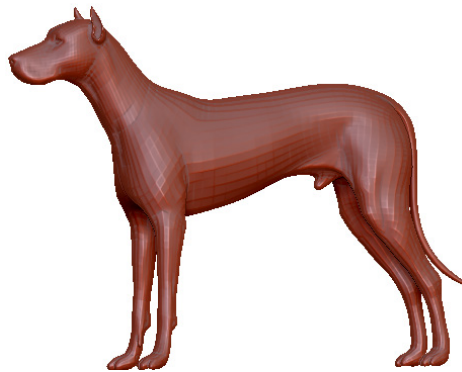
**Figure 6-20** Dynamesh created with the default value of **Resolution** slider



**Figure 6-21** Dynamesh created with the value of **Resolution** slider set to **1000**



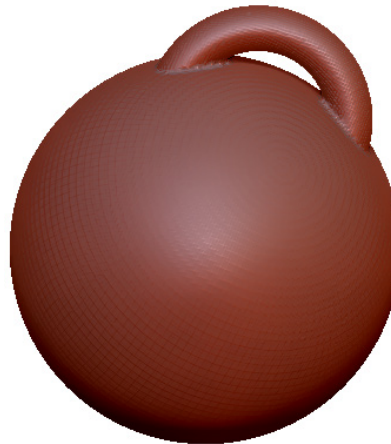
**Figure 6-22** The detail lost on setting the value of **Resolution** slider to **8**



**Figure 6-23** The detail retained on setting the value of **Resolution** slider to **1024**

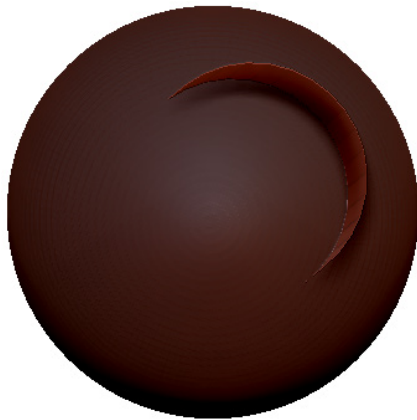


**Figure 6-24** The ring created on the surface of the sphere



**Figure 6-25** The ring merged with the sphere

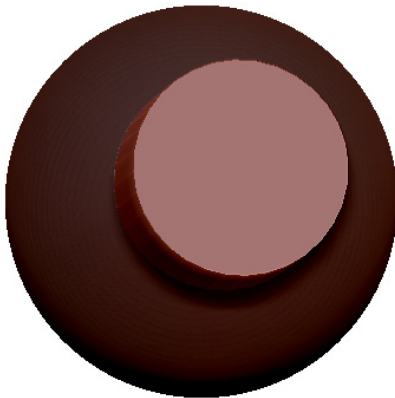




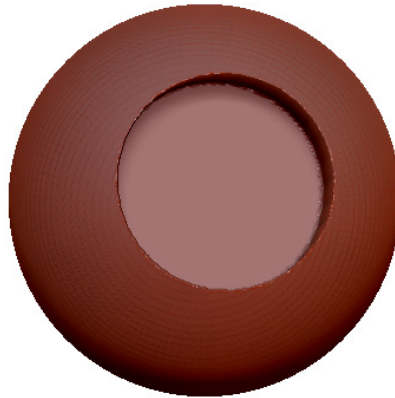
**Figure 6-26** The cylinder created on the surface of the sphere with ALT key pressed



**Figure 6-27** The **Double** button chosen from the **Display Properties** subpalette

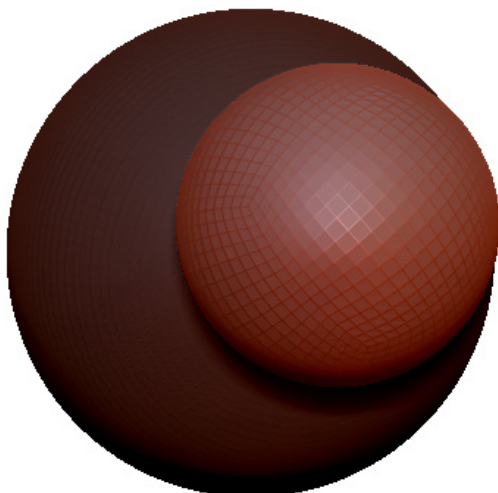


**Figure 6-28** The complete cylinder displayed

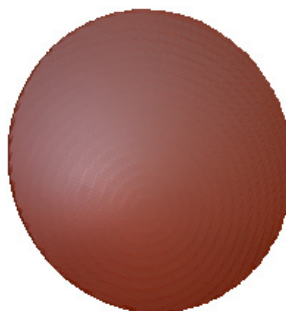


**Figure 6-29** A hole created on sphere

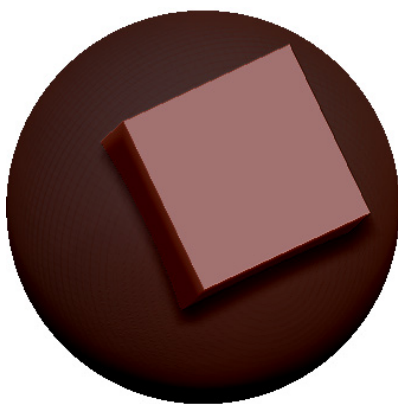




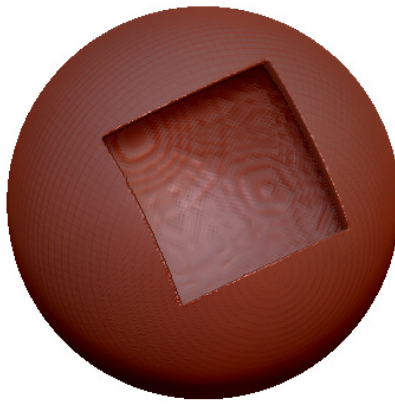
**Figure 6-30** The complete sphere displayed



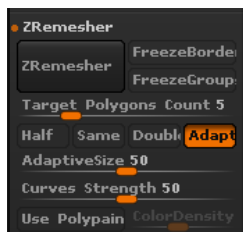
**Figure 6-31** Intersecting geometry retained



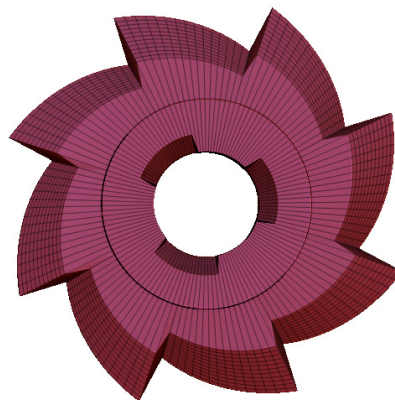
**Figure 6-32** The cube created on the surface of the sphere



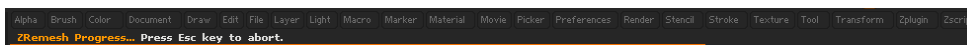
**Figure 6-33** The hole created on the surface of the sphere



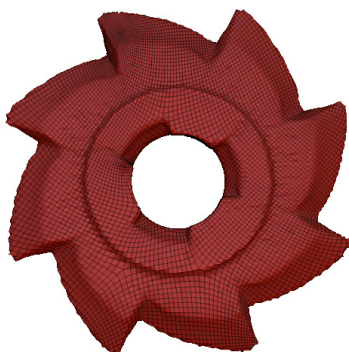
*Figure 6-34* Different buttons and sliders in the **ZRemesher** area



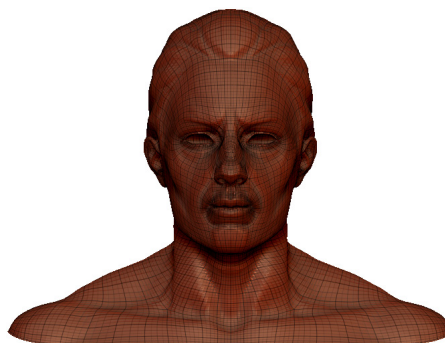
*Figure 6-35* The **Gear3D** primitive created in the canvas



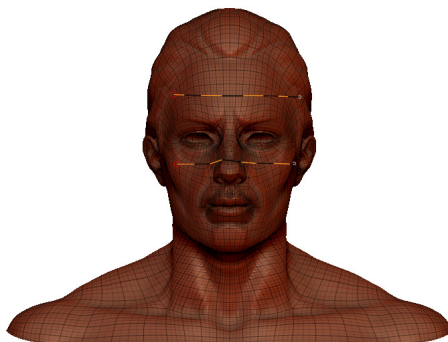
*Figure 6-36* The orange colored bar showing the status



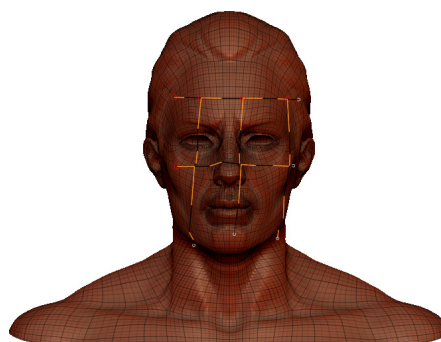
*Figure 6-37* Flow of polygons changed on choosing the **ZRemesher** button



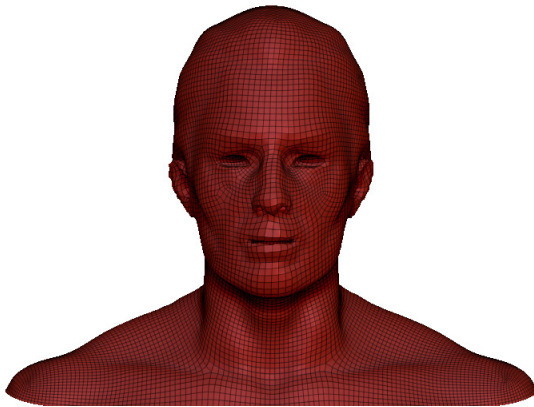
*Figure 6-38* The **DemoHead.ZTL** model created in the canvas



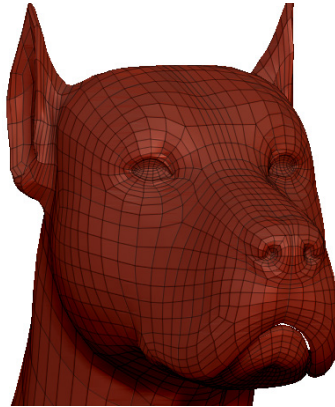
*Figure 6-39* Guide curves created using the **ZRemesher Guide** brush



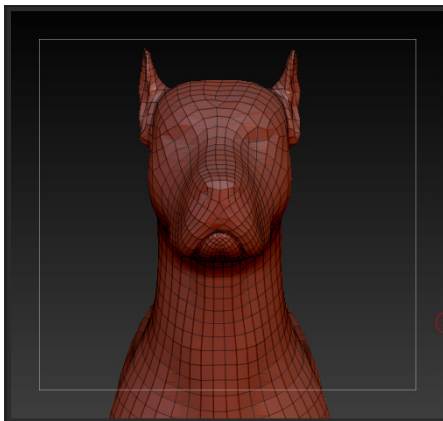
*Figure 6-40* Guide curves created for the flow of polygons



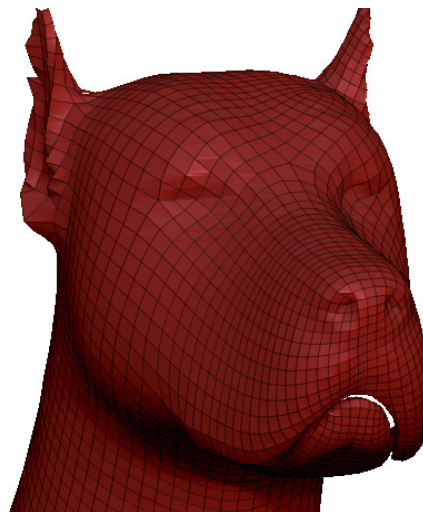
**Figure 6-41** Flow of the polygons changed according to the guide curves



**Figure 6-42** Polygons in the Dog.ZTL



**Figure 6-43** Details lost on choosing the ZRemesher button



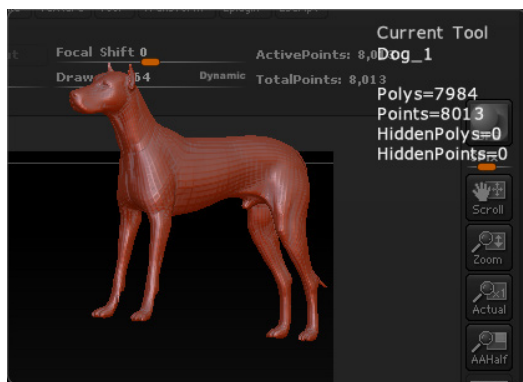
**Figure 6-44** Details around nose and mouth retained on choosing the AutoMask button



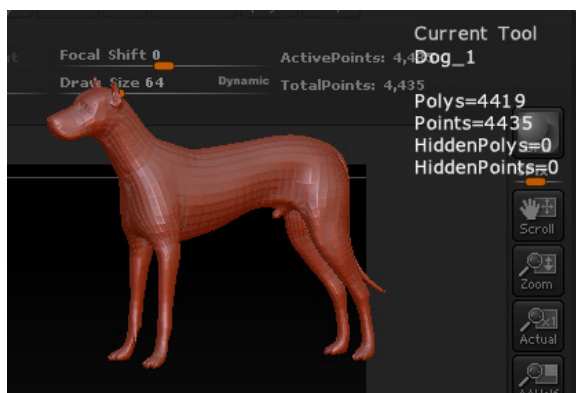
**Figure 6-45** Retopologized model with the **Target Polygons Count** slider set to 1



**Figure 6-46** Retopologized model with the **Target Polygons Count** slider set to 30



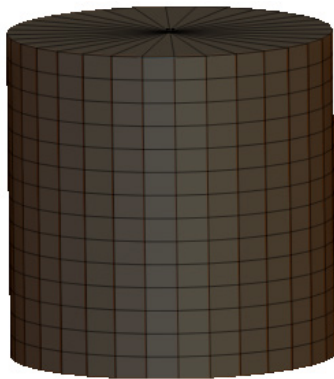
**Figure 6-47** The number of polygons equal to 7984



**Figure 6-48** The number of polygons reduced to 4419 after choosing the **Half** button



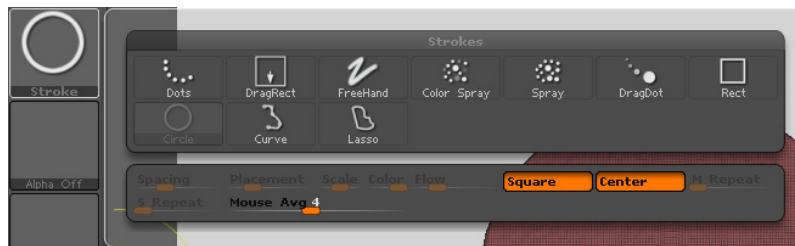
*Figure 6-49 A coffee mug*



*Figure 6-50 The polygon edges displayed on choosing the **PolyF** button*

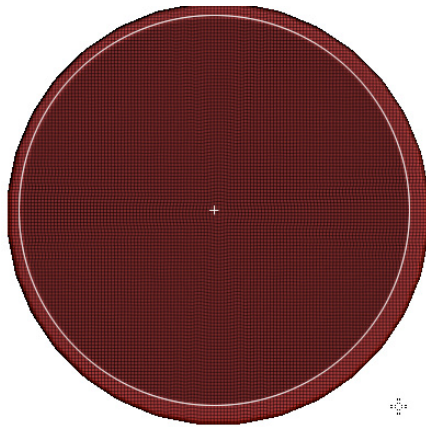


*Figure 6-51 The polygon distribution modified*



*Figure 6-52 The **Square** and **Center** buttons chosen from the flyout*





**Figure 6-53** A circular stroke created on the top of the coffee mug



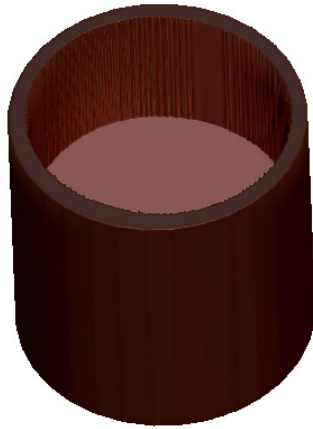
**Figure 6-54** A rectangular stroke created at the bottom of the coffee mug



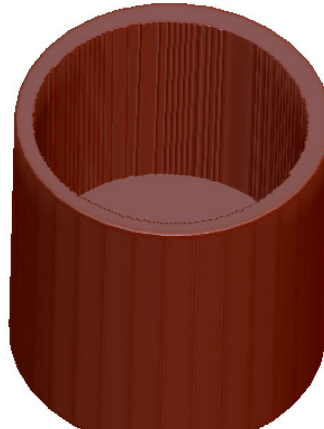
**Figure 6-55** Polygon edges disappeared from the surface



**Figure 6-56** The mask inverted on the surface



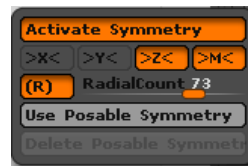
**Figure 6-57** The unmasked area moved downward



**Figure 6-58** The distorted geometry of the coffee mug



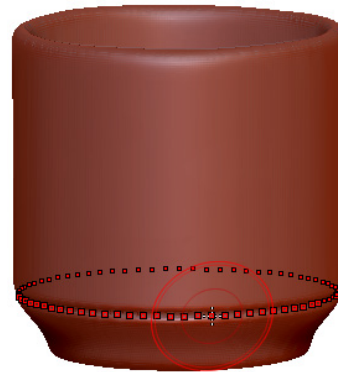
**Figure 6-59** The surface of the coffee mug smoothed



**Figure 6-60** The value of the *RadialCount* slider set to 73



*Figure 6-61* The lower part of the coffee mug moved inward



*Figure 6-62* A pattern created on the coffee mug



*Figure 6-63* Pattern created on the coffee mug



*Figure 6-64* A handle created using the **InsertHRing** brush



*Figure 6-65* The shape of the handle modified using the **Move** brush

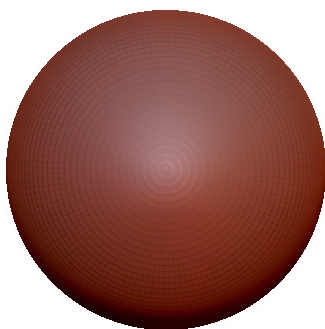


*Figure 6-66* The final model of the coffee mug

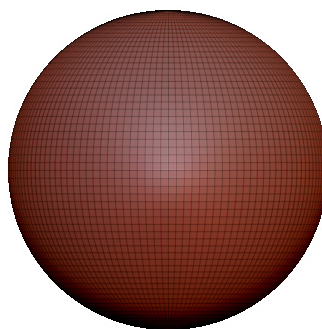




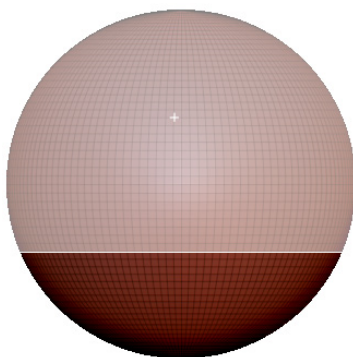
**Figure 6-67** The final model of the cartoon octopus



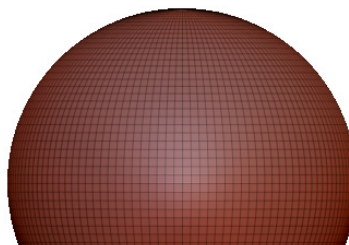
**Figure 6-68** The sphere created in the canvas



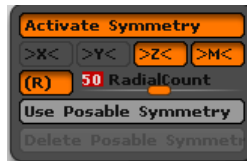
**Figure 6-69** The sphere rotated in the canvas



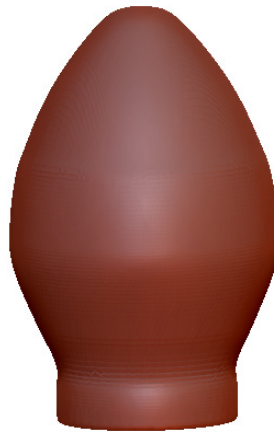
**Figure 6-70** The rectangular marquee selection created on the surface of sphere



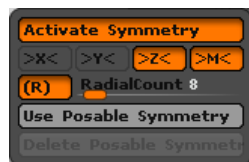
**Figure 6-71** The lower part of the sphere deleted



**Figure 6-72** The value of the *RadialCount* slider set to 50



**Figure 6-73** The shape modified using the *Move* brush



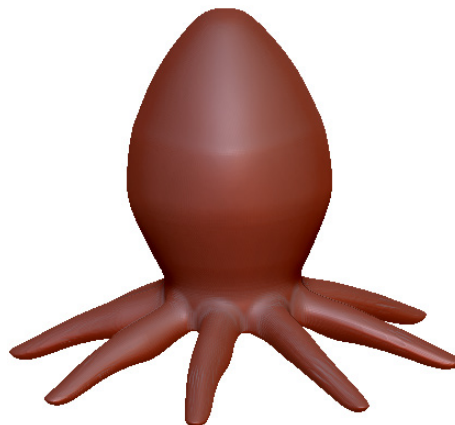
**Figure 6-74** The value of the *RadialCount* slider set to 8



**Figure 6-75** Base for the tentacles created using the *Inflat* brush



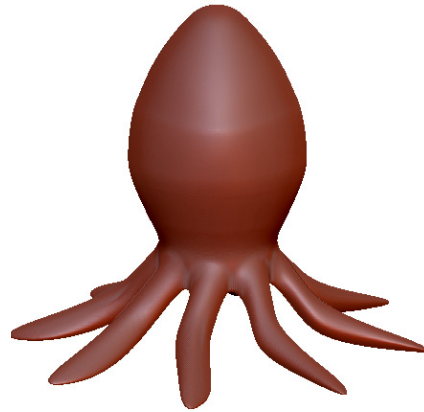
**Figure 6-76** The surface of the octopus smoothed



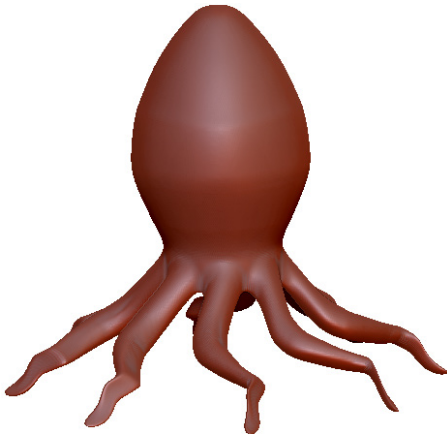
**Figure 6-77** The tentacles dragged out using the *Move* brush



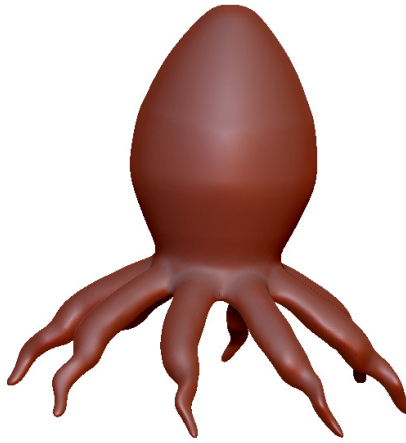
**Figure 6-78** Ends of the tentacles moved toward left



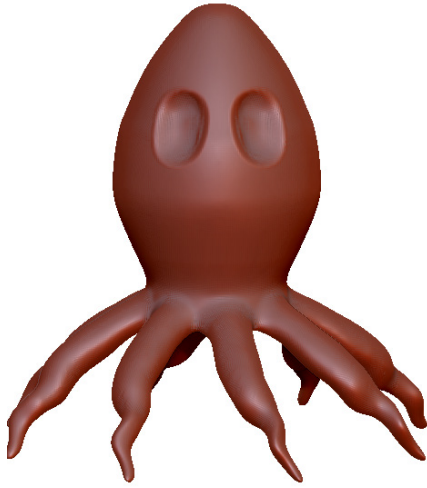
**Figure 6-79** Ends of the tentacles smoothened using the **Smooth** brush



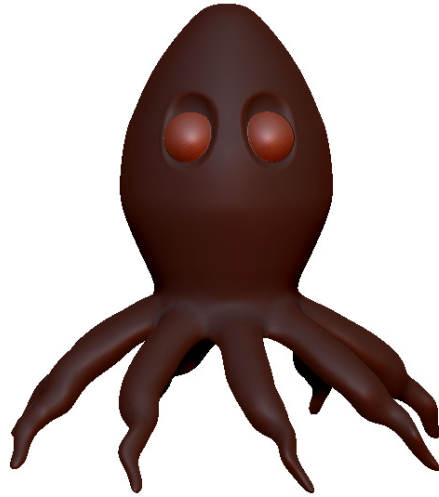
**Figure 6-80** Ends of the tentacles moved toward left using the **SnakeHook** brush



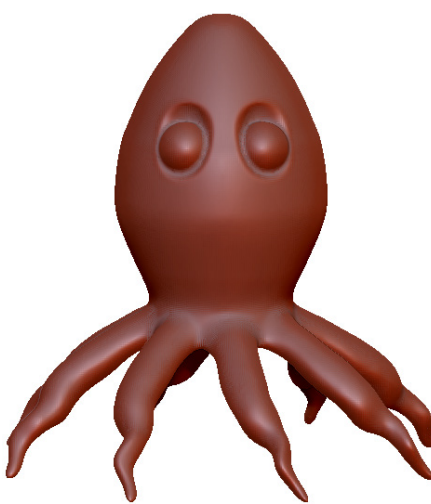
**Figure 6-81** Depth added to the tentacles using the **Inflat** brush



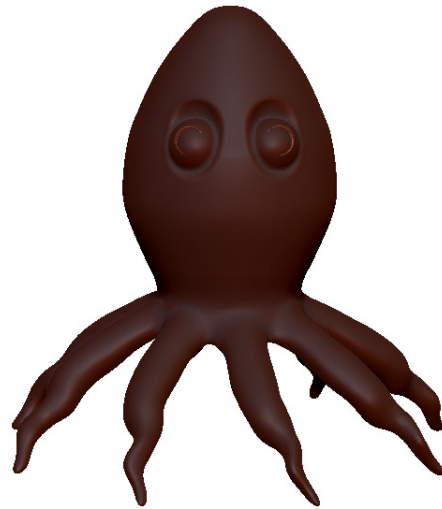
**Figure 6-82** Eye socket created using the *Standard* brush



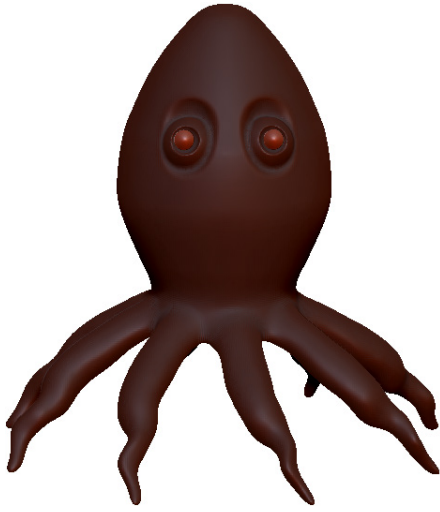
**Figure 6-83** Eye ball created using the *InsertSphere* brush



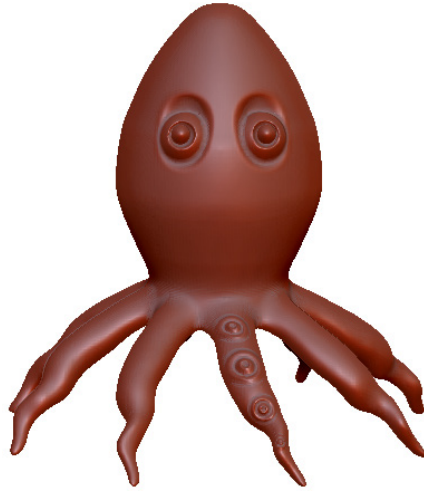
**Figure 6-84** Eyeball merged with the socket



**Figure 6-85** A sphere created on eyeball with the *ALT* key pressed



**Figure 6-86** Sphere created on the surface of the hole



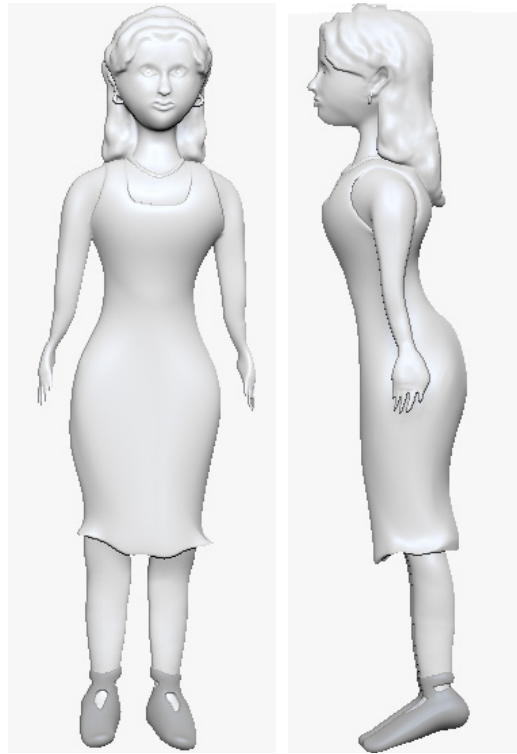
**Figure 6-87** Pattern created on a tentacle



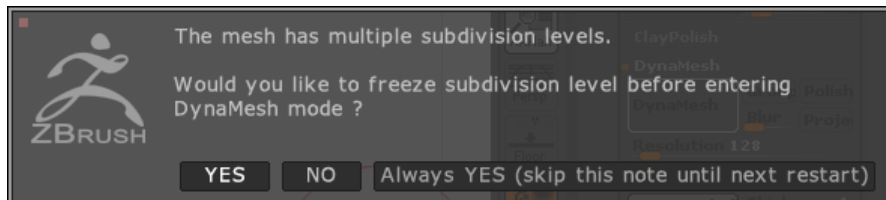
**Figure 6-88** Pattern created on all the tentacles



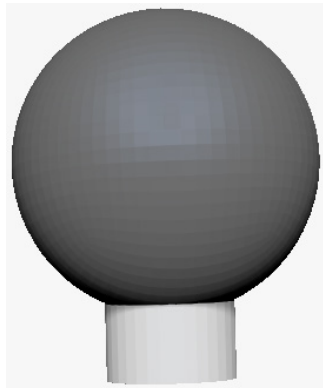
**Figure 6-89** Noise pattern created on the body of the octopus



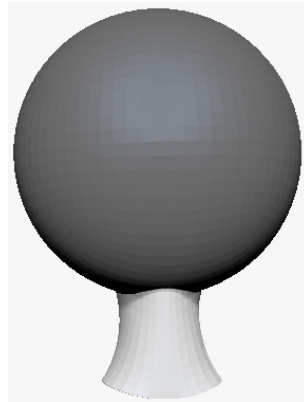
**Figure 6-90** *The final model of the mannequin*



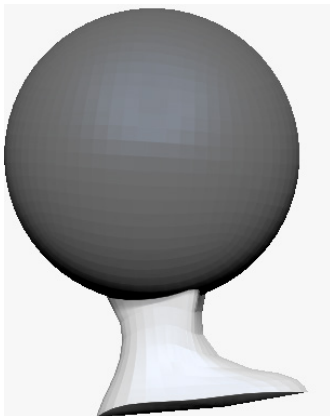
**Figure 6-91** *The dialog box displayed on choosing the **DynaMesh** button*



**Figure 6-92** A cylinder inserted using the *InsertCylinder* brush



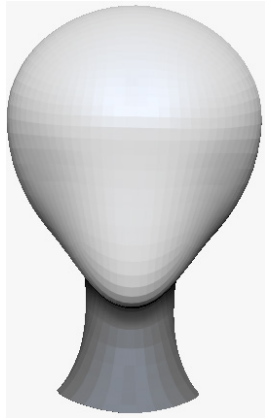
**Figure 6-93** Shape of the cylinder modified to create neck



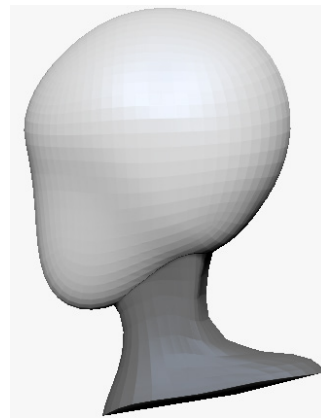
**Figure 6-94** Shape of the neck modified in side view



**Figure 6-95** The mask inverted



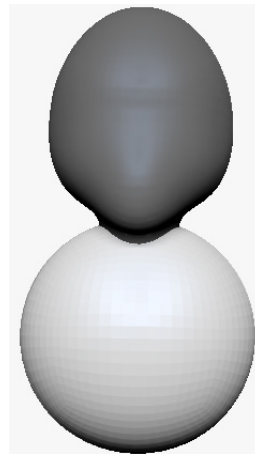
**Figure 6-96** Shape of the sphere modified in front view



**Figure 6-97** Shape of the sphere modified in side view

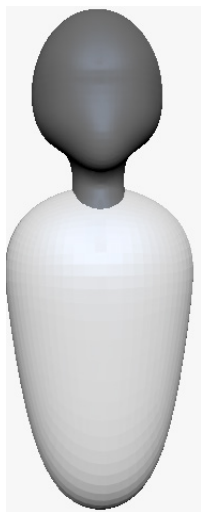


**Figure 6-98** The neck merged with the head



**Figure 6-99** A sphere created using the *InsertSphere* brush

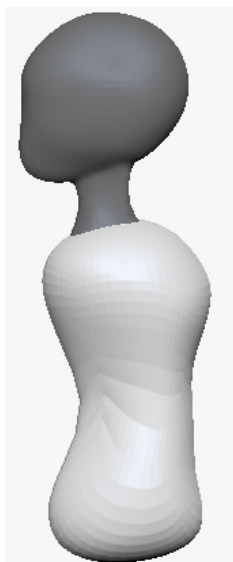




**Figure 6-100** Shape of the sphere modified to create a torso



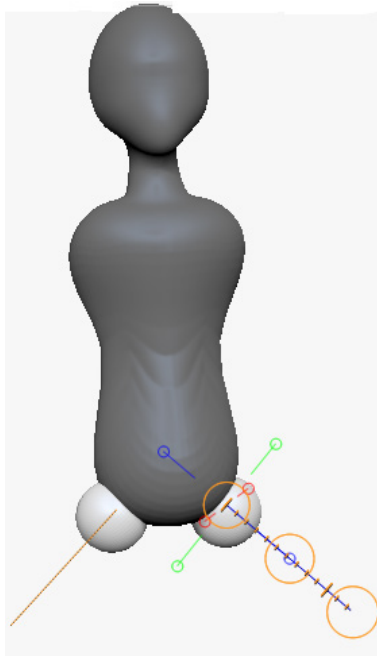
**Figure 6-101** A curve created using the **Move** brush



**Figure 6-102** The shape modified in the side view



**Figure 6-103** The seam below the neck removed



**Figure 6-104** Sphere moved using the action line



**Figure 6-105** The shape modified using the **Move** brush



**Figure 6-106** The shape modified to create legs



**Figure 6-107** The mask removed from the head and torso



**Figure 6-108** *The seam below the torso removed*



**Figure 6-109** *The body adjusted in the side view*



**Figure 6-110** *Depth added to thighs and knees*



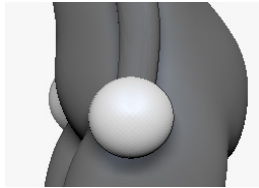
**Figure 6-111** *Sphere created for the shoulders*



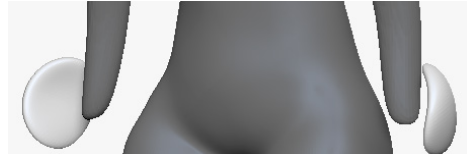
**Figure 6-112** *Shape modified to create arms*



**Figure 6-113** *Shape modified in side view*



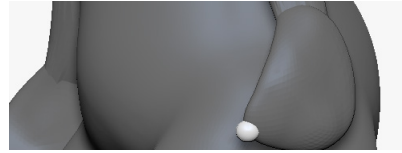
**Figure 6-114** Sphere created for hand



**Figure 6-115** Shape of the sphere modified to create palm



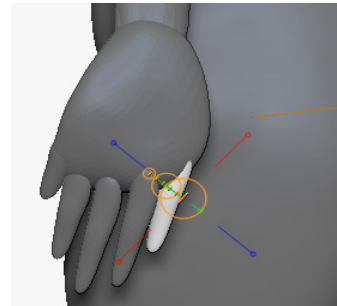
**Figure 6-116** Shape of the arm adjusted according to the palm



**Figure 6-117** Sphere created for the thumb



**Figure 6-118** Shape modified using the *Move* brush to create a thumb



**Figure 6-119** Fingers created using the spheres



**Figure 6-120** Sphere created for the feet



**Figure 6-121** Shape modified using the *Move* brush



**Figure 6-122** Eye sockets created using the **Standard** brush



**Figure 6-123** Sphere inserted for the eyes



**Figure 6-124** Eyes and nose created using the **Standard** brush



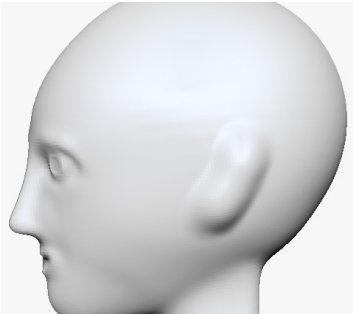
**Figure 6-125** Shape of the nose created in side view



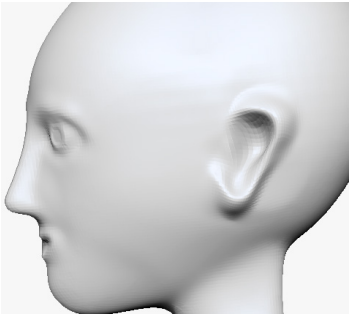
**Figure 6-126** Partition created for the lips using the **Dam\_Standard** brush



**Figure 6-127** Depth created for the lips using the **Standard** brush



*Figure 6-128* Base for the ear created using the **Standard** brush



*Figure 6-129* Shape of the ear created using the **Standard** brush



*Figure 6-130* Mask created for the outfit



*Figure 6-131* The **Extract** area expanded



**Figure 6-132** *The mask removed from the surface*



**Figure 6-133** *The dress created using the **Move** brush*



**Figure 6-134** *Mask created for the hair*



**Figure 6-135** *Mask displayed on the surface*

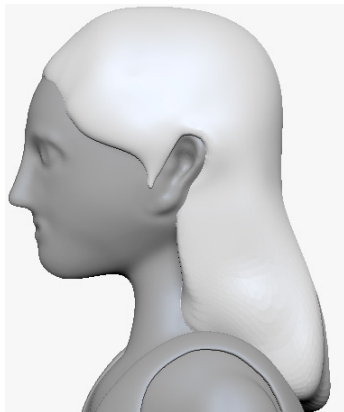




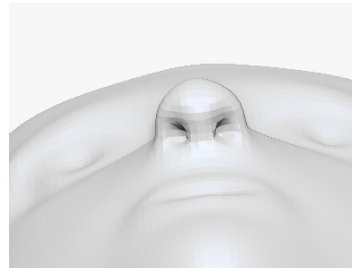
**Figure 6-136** Shape of the hair created using the **Move** brush



**Figure 6-137** Depth added using the **Inflat** brush



**Figure 6-138** Shape of the hair modified using the **Move** brush



**Figure 6-139** Nostrils created using the **Dam\_Standard** brush



**Figure 6-140** Lips created using the **Standard** brush



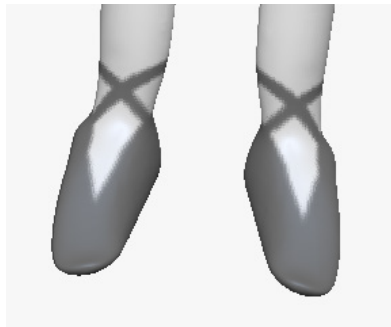
**Figure 6-141** Shape of the lips refined using the **Pinch** brush



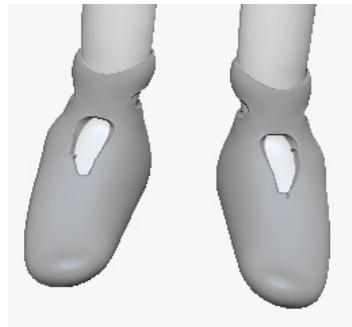
**Figure 6-142** Depth added to the eyes using the **Standard** brush



**Figure 6-143** Depth added to the hair using the **Standard** brush



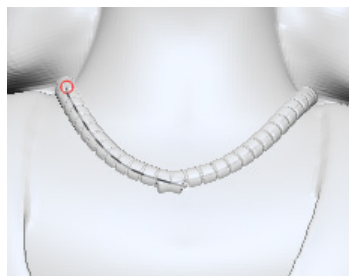
**Figure 6-144** Mask created for the shoes



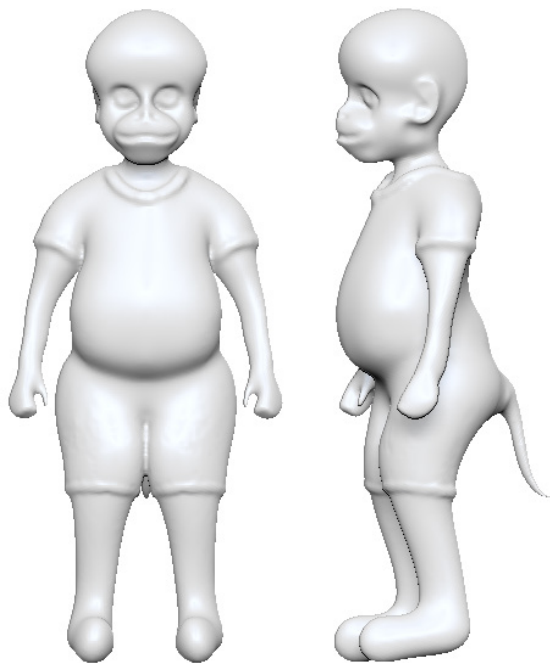
**Figure 6-145** The mask extracted from the surface



**Figure 6-146** Earrings created using the *InsertHRing* brush



**Figure 6-147** Necklace created using the *InsertCylndrExt* brush

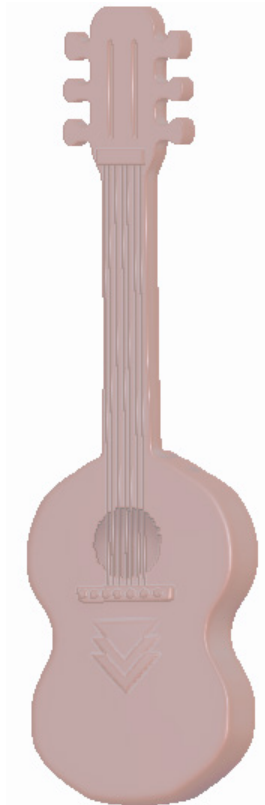


**Figure 6-148** Model of the cartoon monkey

# ***Chapter 7***

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## ***ShadowBox***

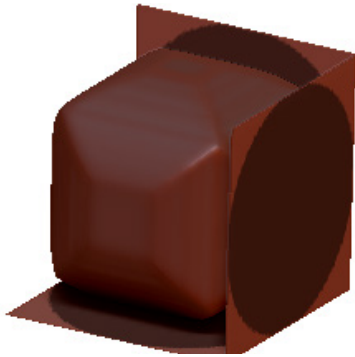




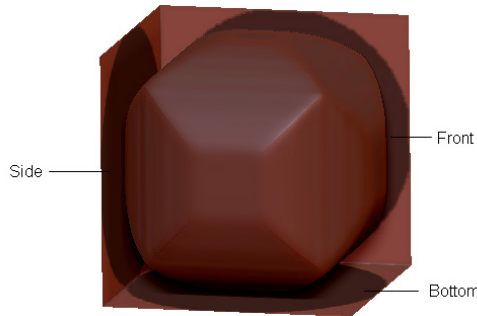
**Figure 7-1** The *ShadowBox* button chosen in the *Geometry* subpalette



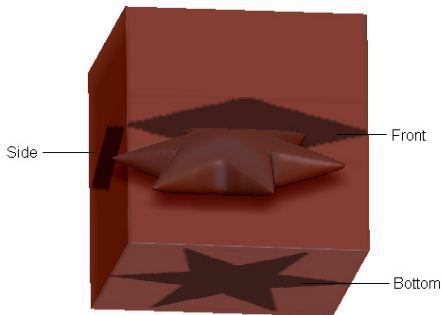
**Figure 7-2** *ShadowBox* displayed in the canvas



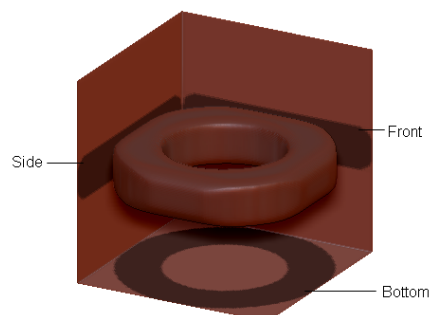
**Figure 7-3** The cubic *ShadowBox*



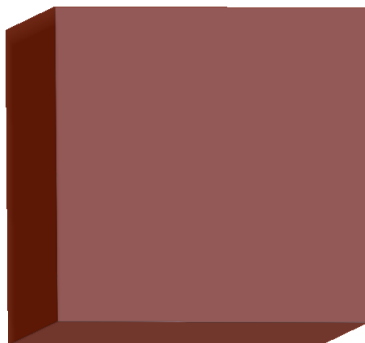
**Figure 7-4** The front, side, and bottom projections of the sphere in the *ShadowBox*



**Figure 7-5** The front, side, and bottom projections of the *PolyMesh3D\_1* primitive



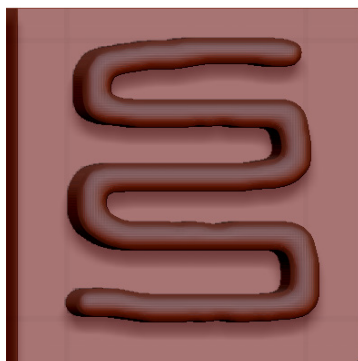
**Figure 7-6** The front, side, and bottom projections of the *Ring3D* primitive



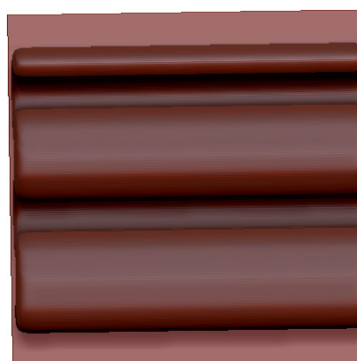
**Figure 7-7** The projections and 3D object cleared from the ShadowBox



**Figure 7-8** Projection created in the front plane using the **MaskPen** brush



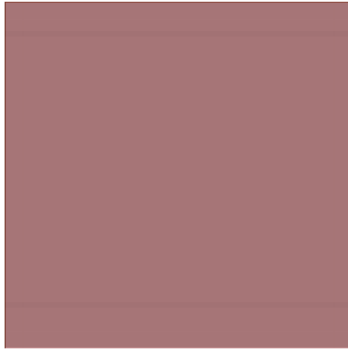
**Figure 7-9** 3D mesh created inside the ShadowBox



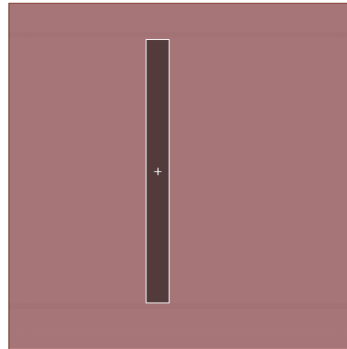
**Figure 7-10** Side view of the 3D mesh



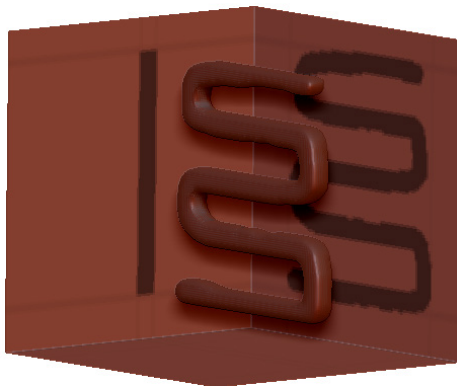
**Figure 7-11** Top view of the 3D mesh



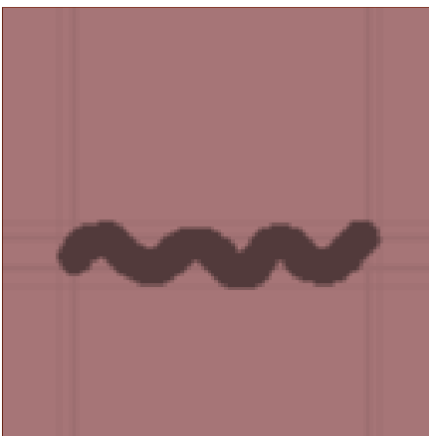
**Figure 7-12** Side plane of the ShadowBox snapped to the canvas



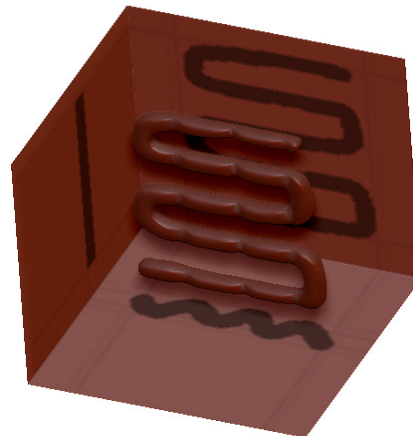
**Figure 7-13** Rectangular stroke created in the side plane of the ShadowBox



**Figure 7-14** Depth of the 3D mesh decreased according to the mask



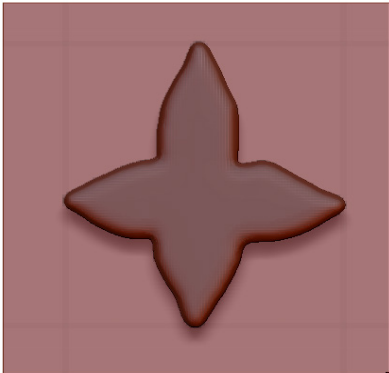
**Figure 7-15** Mask created in the bottom plane of the ShadowBox



**Figure 7-16** Top view of the 3D mesh modified according to the mask



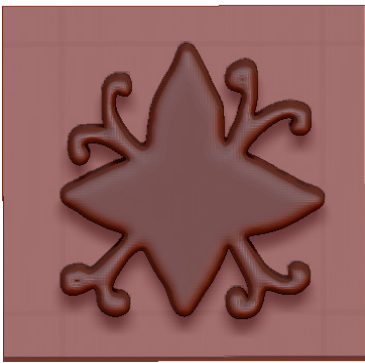
**Figure 7-17** Mask created in the front plane of the ShadowBox



**Figure 7-18** 3D mesh created in the ShadowBox



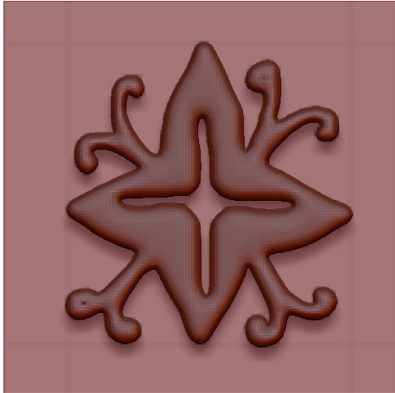
**Figure 7-19** Shape of the mask modified in the back side of the front plane



**Figure 7-20** Shape of the 3D mesh modified

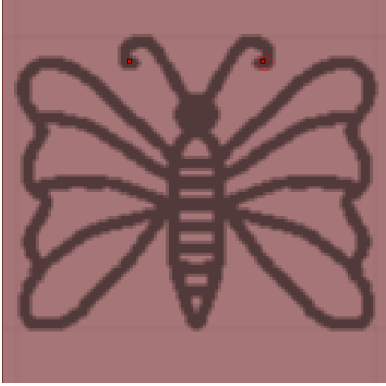


**Figure 7-21** Shape of the mask modified in the back side of the front plane



**Figure 7-22** Shape of the 3D object modified

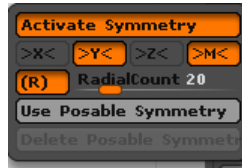




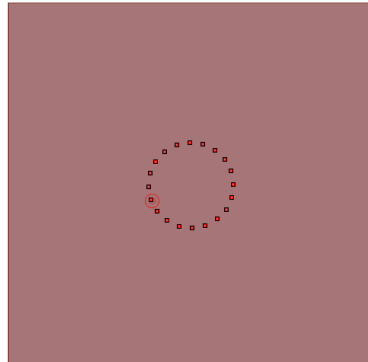
**Figure 7-23** Mask created with the symmetry activated in X-axis



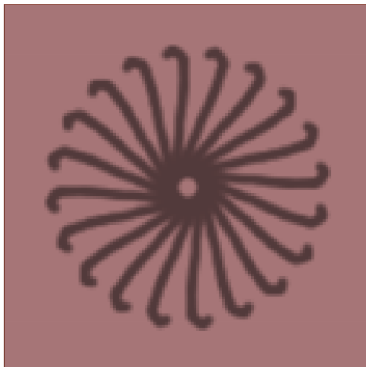
**Figure 7-24** 3D object created in the ShadowBox



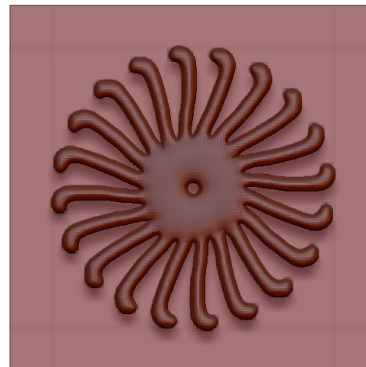
**Figure 7-25** The value of the RadialCount slider set to 20



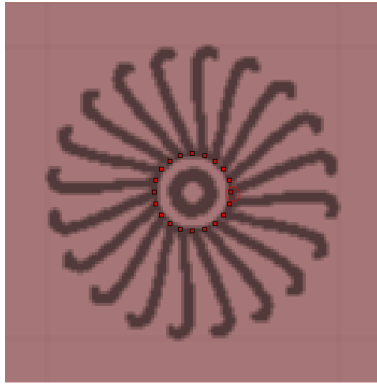
**Figure 7-26** Radial symmetry activated in the Y-axis



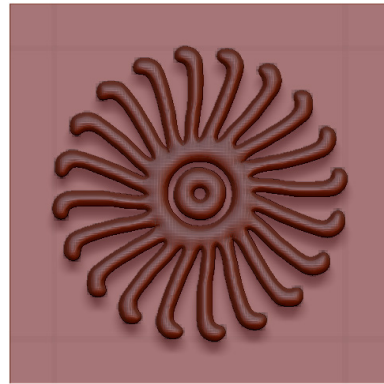
**Figure 7-27** Mask created in the front plane of the ShadowBox



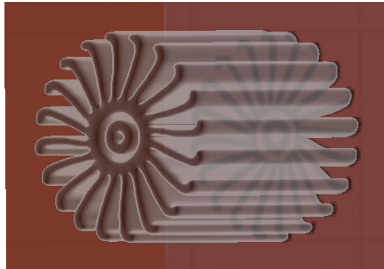
**Figure 7-28** A circular 3D mesh created in the ShadowBox



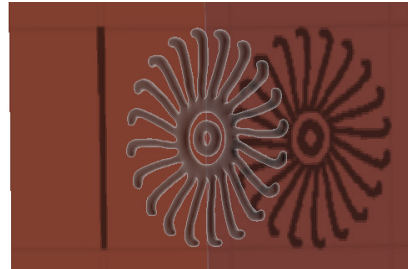
**Figure 7-29** Shape of the mask modified in the back side of the front plane



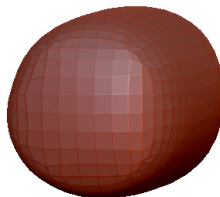
**Figure 7-30** Shape of the 3D object modified



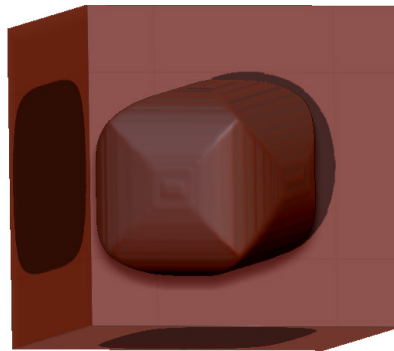
**Figure 7-31** Ghost transparency activated



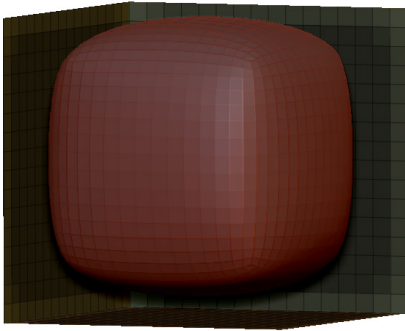
**Figure 7-32** Depth of the object modified



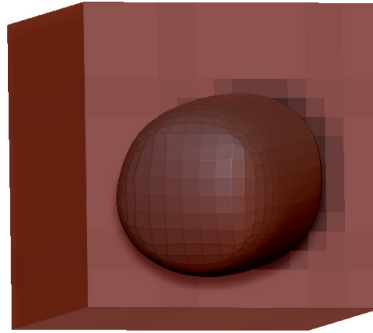
**Figure 7-35** Low resolution 3D object displayed in the canvas



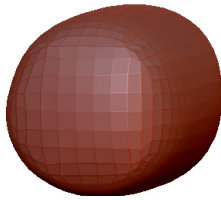
**Figure 7-36** High resolution 3D mesh created in the ShadowBox



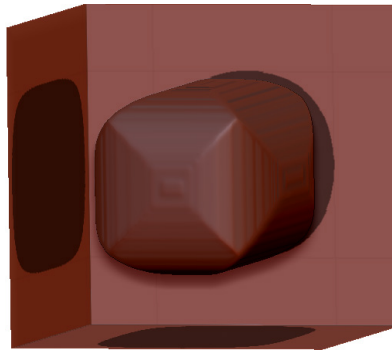
**Figure 7-33** Polygon edges displayed on the ShadowBox



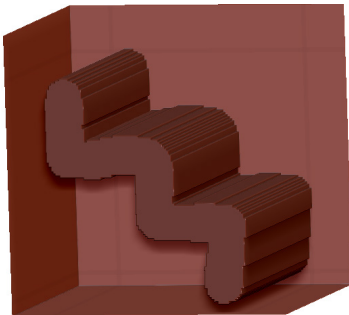
**Figure 7-34** Low resolution 3D mesh created in the ShadowBox



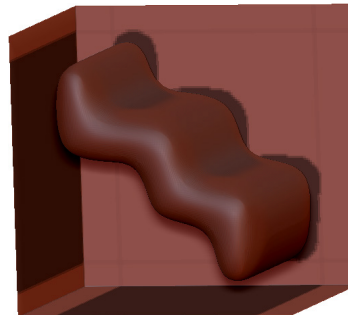
**Figure 7-35** Low resolution 3D object displayed in the canvas



**Figure 7-36** High resolution 3D mesh created in the ShadowBox



**Figure 7-37** The 3D object created with the value of the **Polish** slider set to **0**



**Figure 7-38** The 3D object created with the value of the **Polish** slider set to **100**

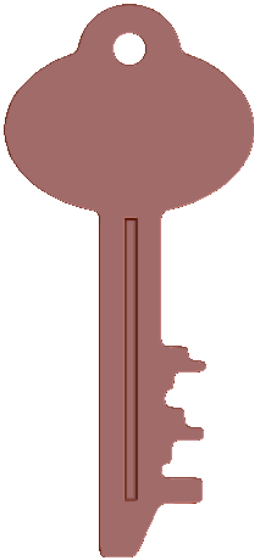


Figure 7-39 The model of a key

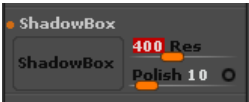


Figure 7-40 The value of the Res slider set to 400



Figure 7-41 The front view of the ShadowBox displayed in the canvas

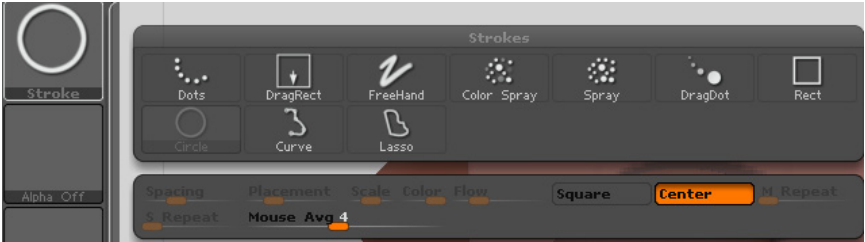
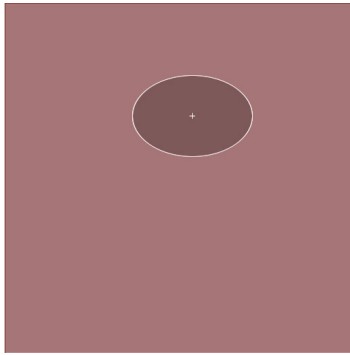
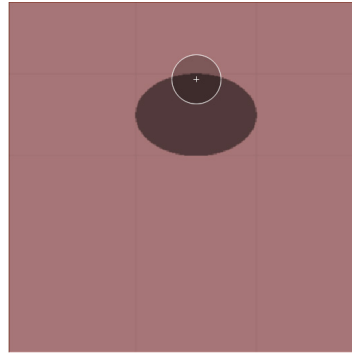


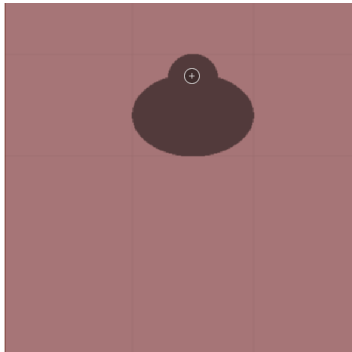
Figure 7-42 The Center button chosen from the flyout



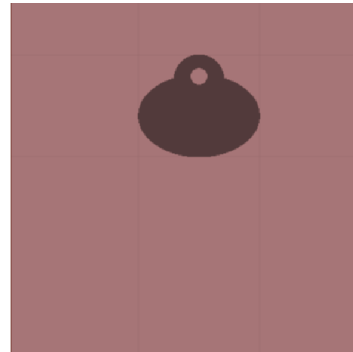
**Figure 7-43** An elliptical stroke created in the backside of the front plane



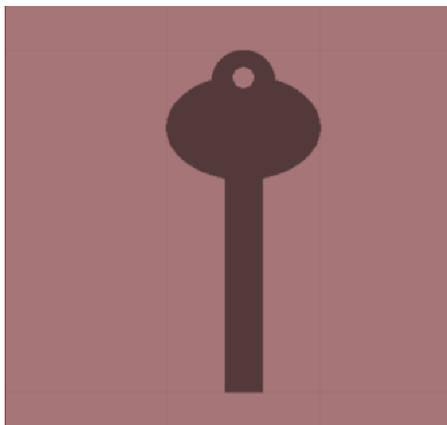
**Figure 7-44** A circular stroke created above the elliptical mask



**Figure 7-45** A circular stroke created on the mask with the ALT key pressed



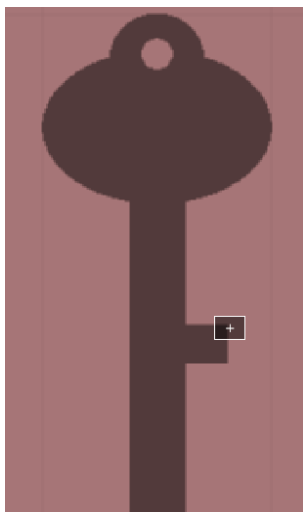
**Figure 7-46** A hole created in the mask



**Figure 7-47** A rectangular mask created using the **MaskRect** brush



**Figure 7-48** A rectangular mask created on the right side of the mask

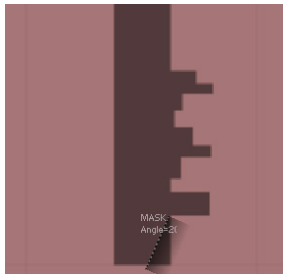


**Figure 7-49** A rectangular stroke created on the mask with **ALT** key pressed



**Figure 7-50** The shape of the mask modified

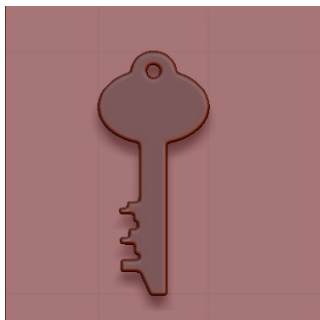




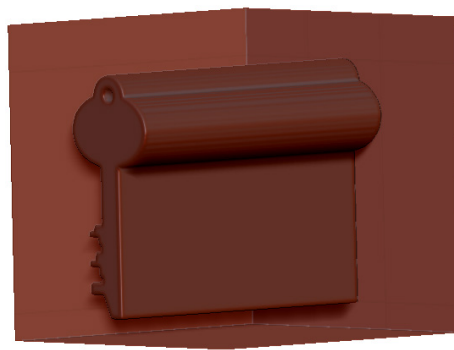
**Figure 7-53** Curved stroke created using the **MaskCurve** brush



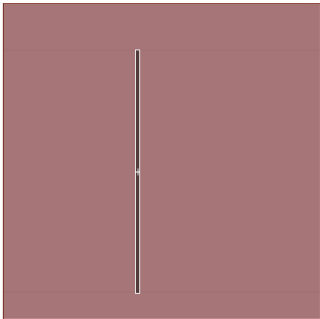
**Figure 7-54** Shape of the mask modified



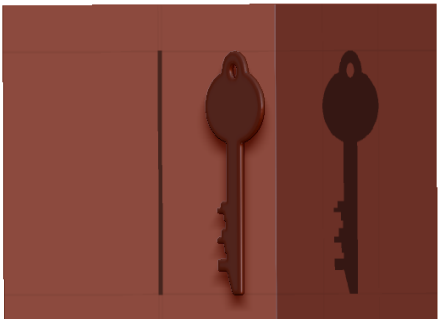
**Figure 7-55** A key created in the **ShadowBox**



**Figure 7-56** Side view of the key



**Figure 7-57** A rectangular stroke created in the side plane



**Figure 7-58** The depth of the key decreased

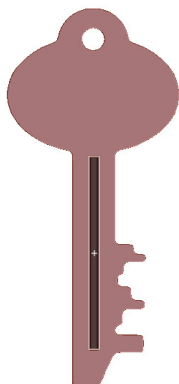


**Figure 7-59** The Make PolyMesh3D button chosen



**Figure 7-60** The key displayed in the canvas





**Figure 7-61** Rectangular stroke created using the **MaskRect** brush



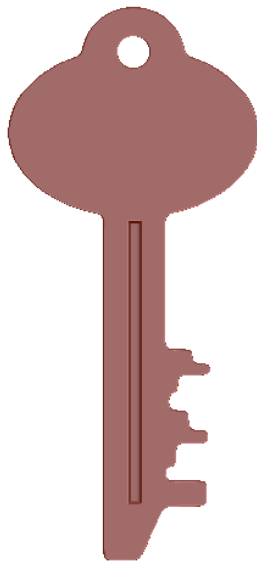
**Figure 7-62** Mask removed from the back side of the key



**Figure 7-63** The mask inverted



**Figure 7-64** The **Offset** slider



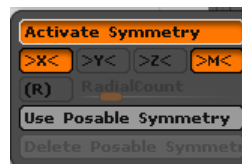
*Figure 7-65 The final model of the key*



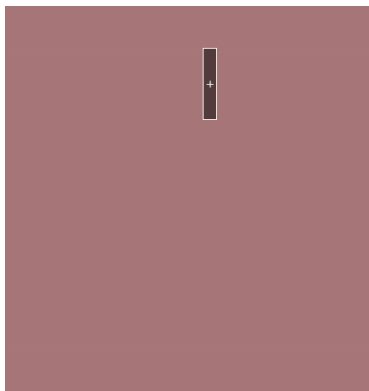
*Figure 7-66 The model of a guitar*



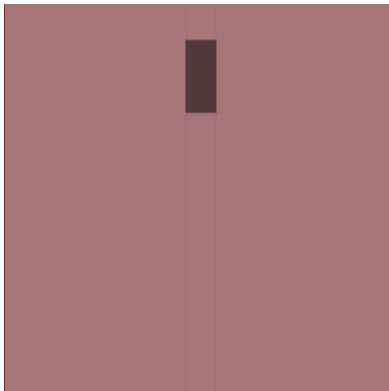
**Figure 7-67** *The ShadowBox*



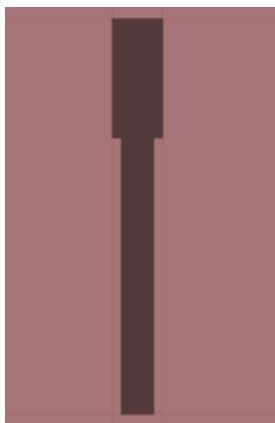
**Figure 7-68** *The symmetry activated in X-axis*



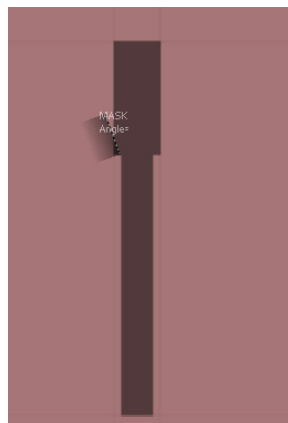
**Figure 7-69** *A rectangular stroke created in the front plane*



**Figure 7-70** *A mask created in the front plane*



**Figure 7-71** *Another rectangular mask created in the front plane*



**Figure 7-72** *Curved stroke created using the MaskCurve brush*



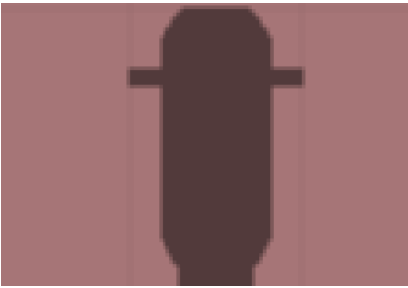
**Figure 7-73** Shape of the mask modified



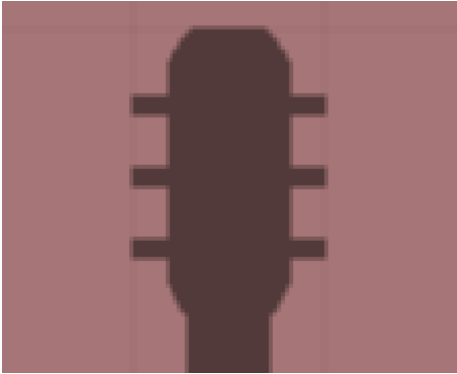
**Figure 7-74** Curved stroke created using the **MaskCurve** brush



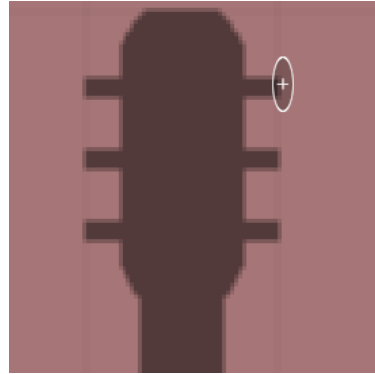
**Figure 7-75** Shape of the mask modified



**Figure 7-76** Rectangular mask created



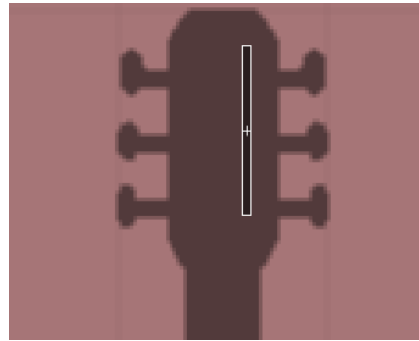
**Figure 7-77** Two more rectangular masks created



**Figure 7-78** An elliptical stroke created using the **MaskCircle** brush



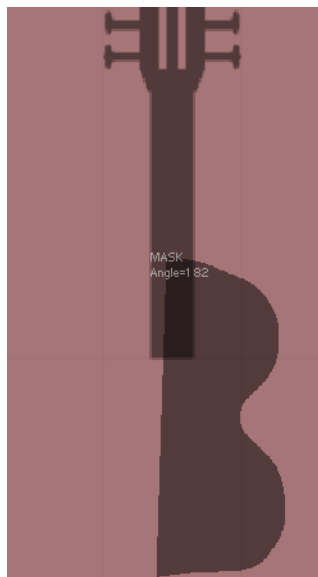
**Figure 7-79** Two more elliptical masks created



**Figure 7-80** A rectangular stroke created with the **ALT** key pressed



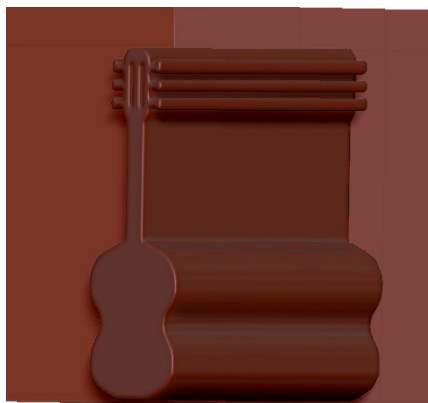
**Figure 7-81** Shape of the mask modified



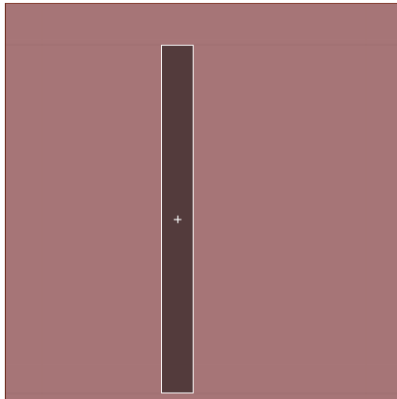
**Figure 7-82** A mask created using the *MaskLasso* brush



**Figure 7-83** A mask created for the guitar



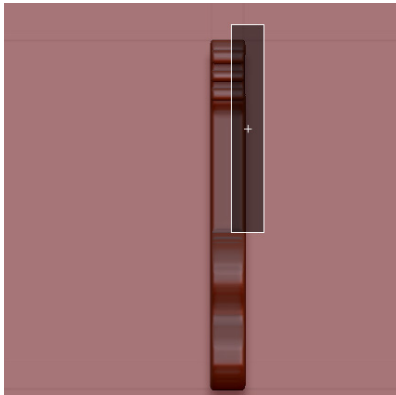
**Figure 7-84** A 3D mesh for a guitar created in the *ShadowBox*



**Figure 7-85** A rectangular stroke created in the side plane



**Figure 7-86** Width of the guitar decreased



**Figure 7-87** A rectangular stroke created with the ALT key pressed



**Figure 7-88** The shape of the guitar modified



*Figure 7-89 The Make PolyMesh3D button chosen*



*Figure 7-90 The guitar displayed in the canvas*

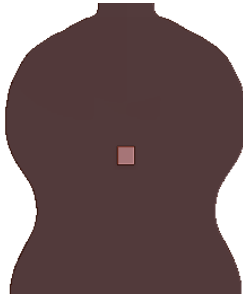


*Figure 7-91 A rectangular stroke created with the ALT key pressed*



*Figure 7-92 The smoothness in the model removed*

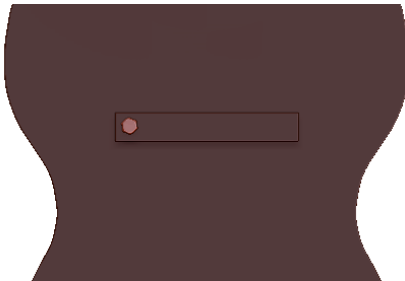




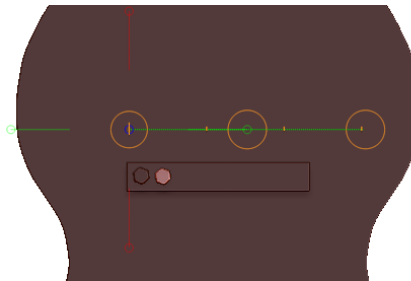
**Figure 7-93** A cube inserted using the **InsertCube** brush



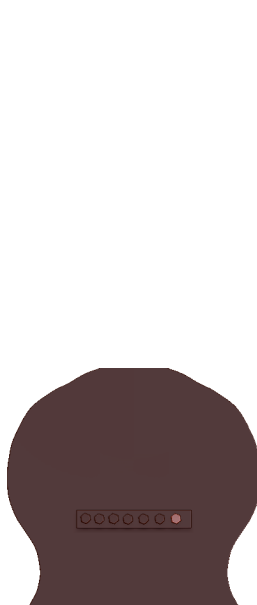
**Figure 7-94** Width of the cube increased



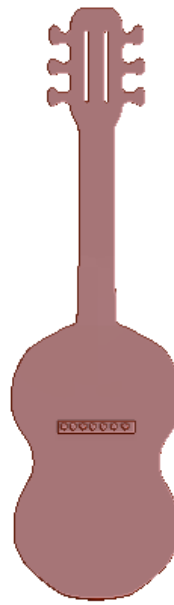
**Figure 7-95** A cylinder inserted using the **InsertCylinder** brush



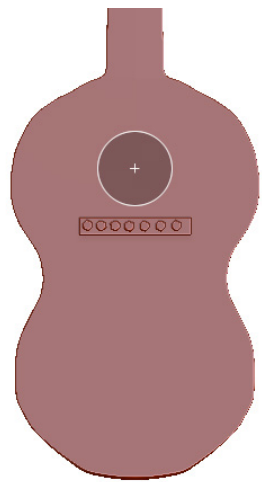
**Figure 7-96** A duplicated copy of the cylinder created



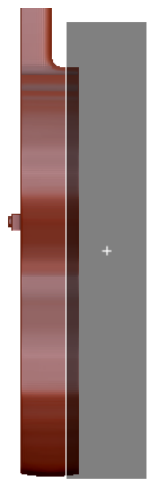
**Figure 7-97** More copies of cylinder created



**Figure 7-98** The mask removed from the guitar



**Figure 7-99** The circular mask created using the **MaskCircle** brush



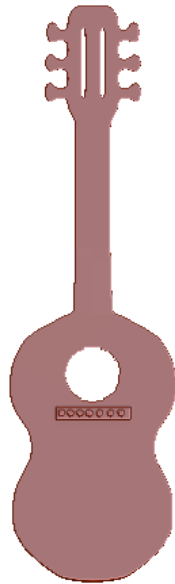
**Figure 7-100** A rectangular stroke created with the **ALT** key pressed



**Figure 7-101** The mask inverted



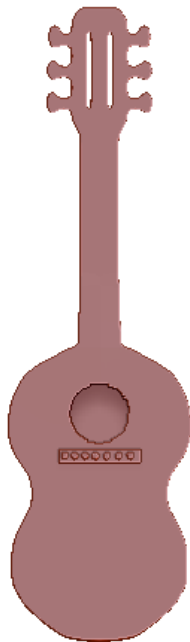
**Figure 7-102** The **HidePt** button chosen in the **Visibility** subpalette



**Figure 7-103** A hole created in the guitar



**Figure 7-104** The **Double** button chosen



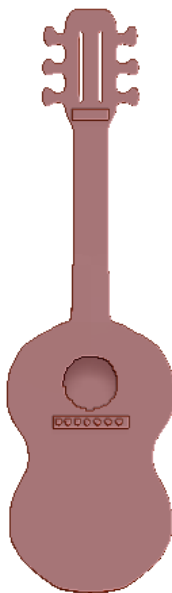
**Figure 7-105** The hole in the backside of the guitar filled



**Figure 7-106** A cube inserted using the **InsertCube** brush



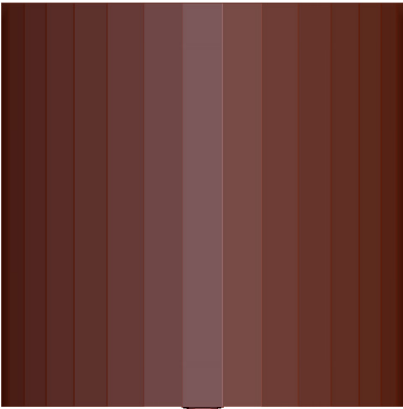
**Figure 7-107** Width of the cube increased



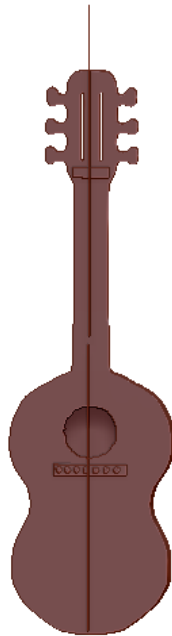
**Figure 7-108** The mask removed from the guitar



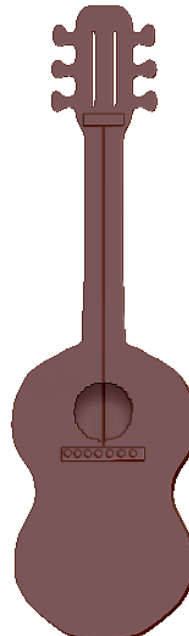
**Figure 7-109** The Append button chosen



**Figure 7-110** A cylinder created in the canvas



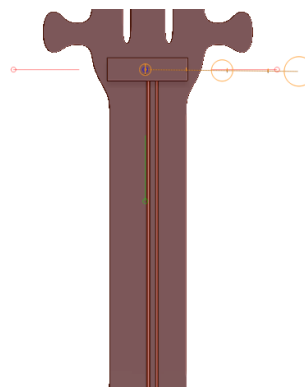
**Figure 7-111** The size of the cylinder decreased along the X and Y axes



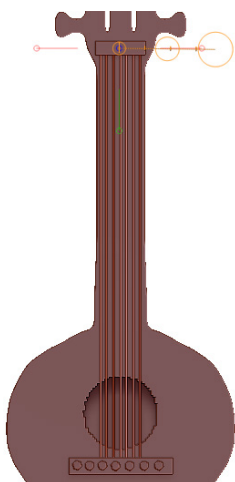
**Figure 7-112** The height of the cylinder decreased



**Figure 7-113** The side view of the guitar



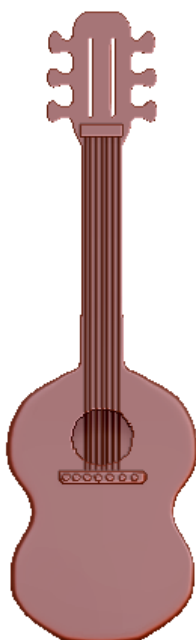
**Figure 7-114** Duplicate copy of the cylinder created



**Figure 7-115** More copies of the cylinder created



**Figure 7-116** Mask removed from the guitar



**Figure 7-117** Shape of the guitar refined using the **Move** brush



**Figure 7-118** A pattern created using the **Alpha 29** alpha image



*Figure 7-119 Model of a chair*



*Figure 7-120 Model of a hut*

# ***Chapter 8***

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## ***Materials in ZBrush***





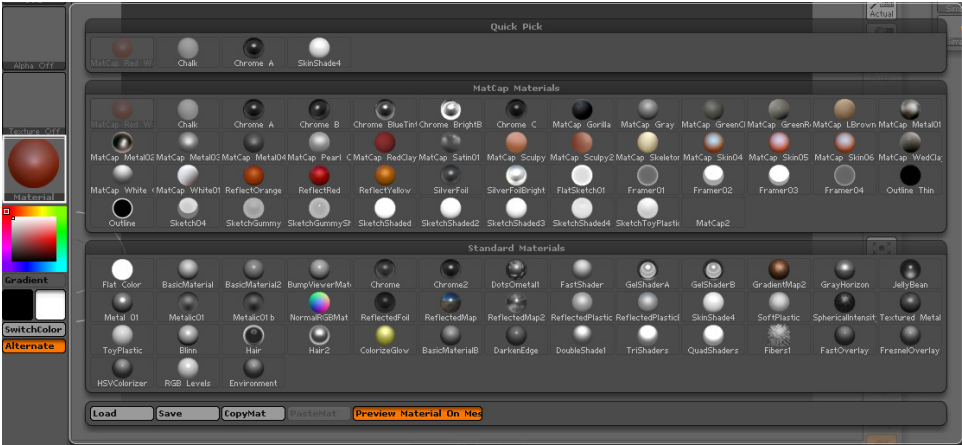


Figure 8-1 The flyout displayed on choosing the Current Material button



Figure 8-2 The Chrome BrightBlue Tint material applied to the sphere



Figure 8-3 The MatCap Pearl Cavity material applied to the sphere

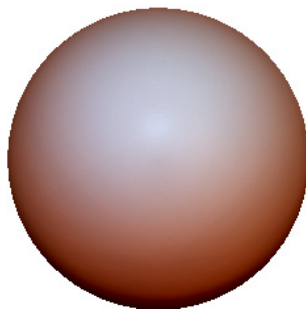


Figure 8-4 The MatCap Skin06 material applied to the sphere



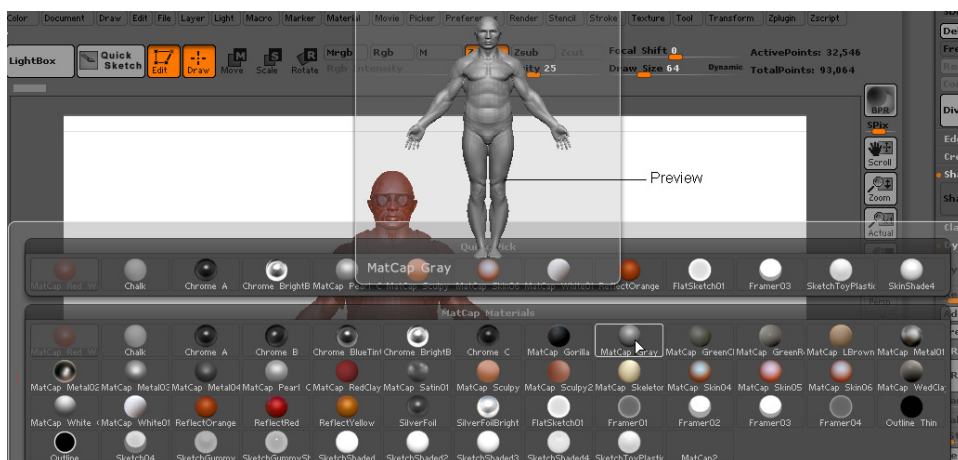
Figure 8-5 The ReflectOrange material applied to the sphere



*Figure 8-6 The FlatSketch01 material applied to the sphere*



*Figure 8-7 The SketchToyPlastic material applied to the sphere*



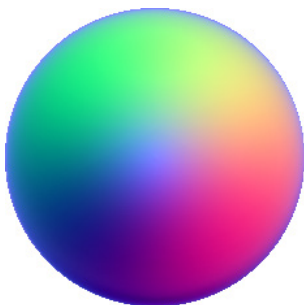
*Figure 8-8 The preview of the object with a material*



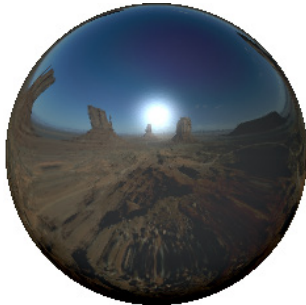
*Figure 8-9 The GelShaderA material applied to the sphere*



*Figure 8-10 The GradientMap2 material applied to the sphere*



*Figure 8-11 The NormalRGBMat material applied to the sphere*



*Figure 8-12 The ReflectedMap material applied to the sphere*



*Figure 8-13 The Material palette*

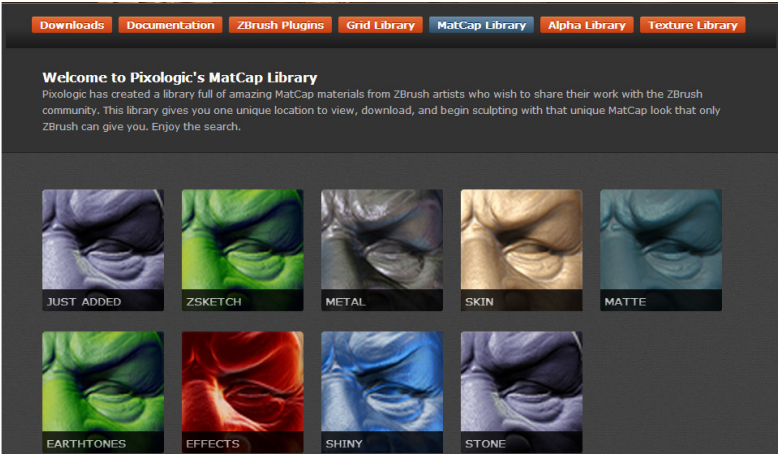


Figure 8-14 The MatCap library



Figure 8-15 Different skin categories

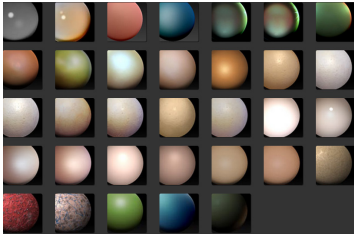


Figure 8-16 The different skin materials



Figure 8-17 The **DOWNLOAD HERE** link

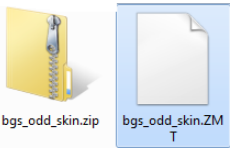


Figure 8-18 The material file extracted from the Zip file

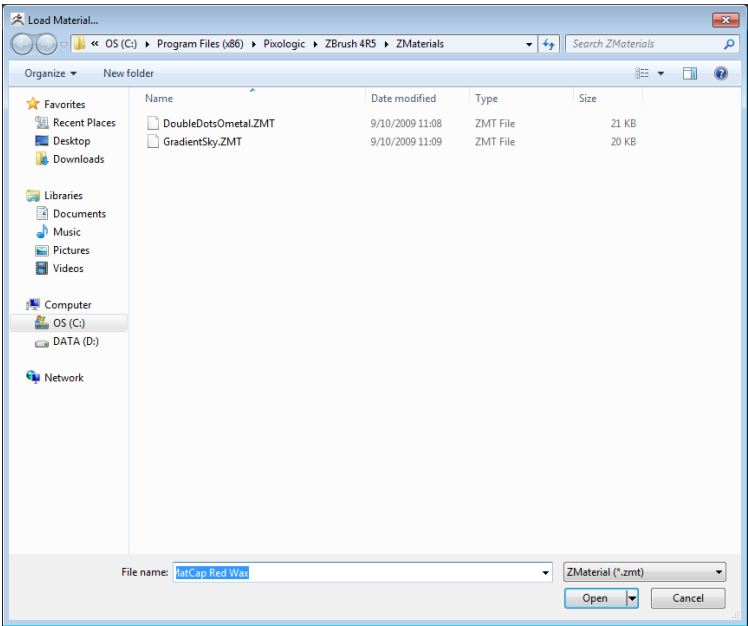


Figure 8-19 The Load Material dialog box



Figure 8-20 The default material replaced by the downloaded material

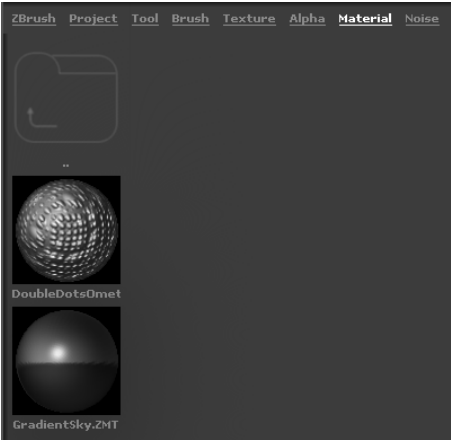


Figure 8-21 The materials in the LightBox browser

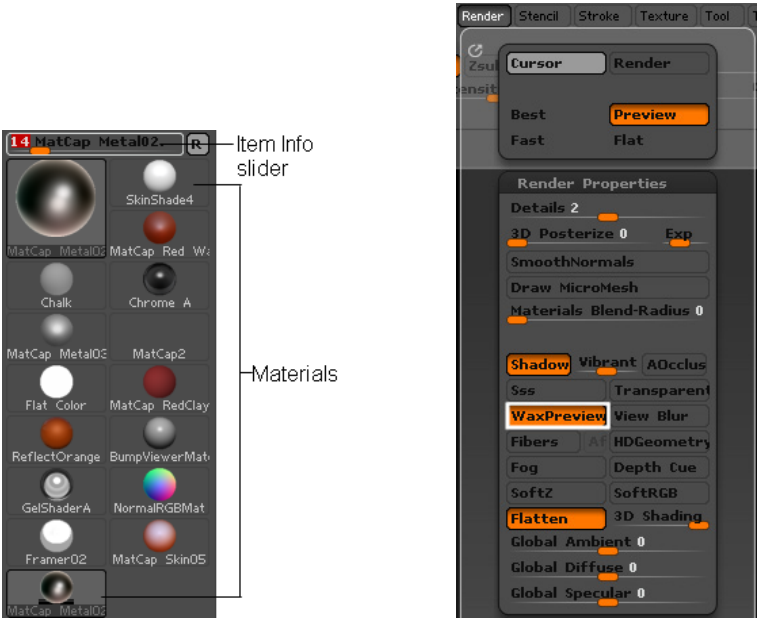
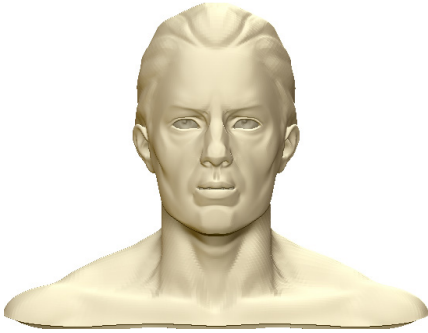
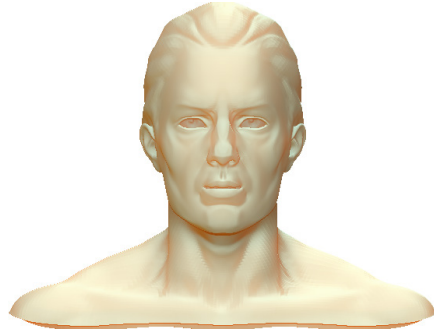


Figure 8-22 The Item Info slider

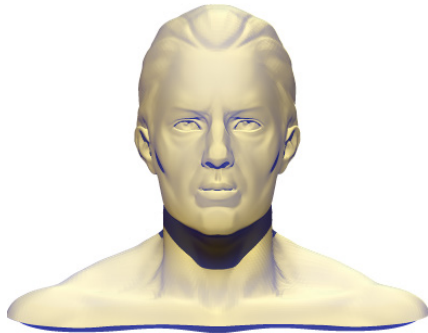
Figure 8-23 The WaxPreview button chosen



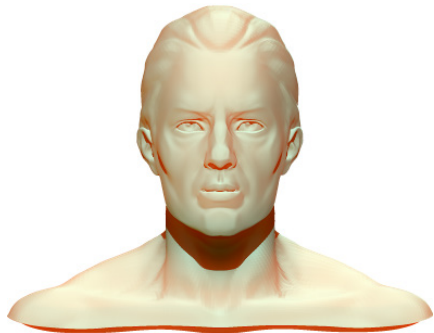
**Figure 8-24** *The material applied to the model*



**Figure 8-25** *Wax effect at **Strength** value 100*



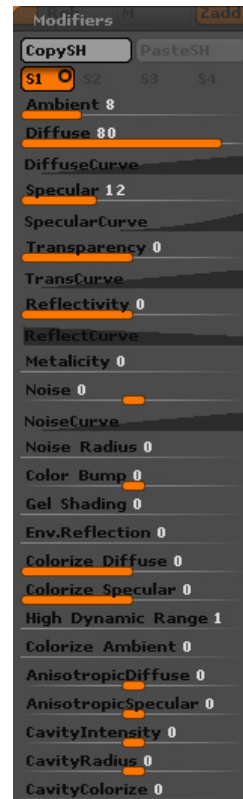
**Figure 8-26** *Blue tint at **Temperature** value -100*



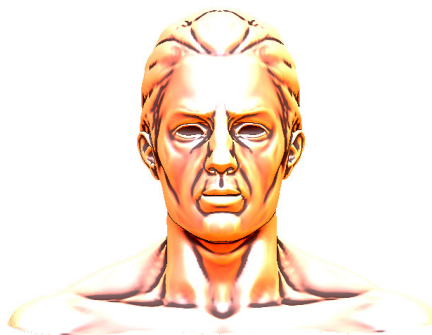
**Figure 8-27** *Red tint at **Temperature** value 100*



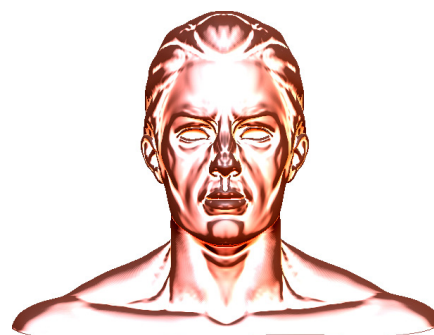
**Figure 8-28** Partial view of the **Modifiers** subpalette for MatCap materials



**Figure 8-29** Partial view of the **Modifiers** subpalette for Standard materials



**Figure 8-30** Brightness displayed in the raised surfaces of an object



**Figure 8-31** Brightness displayed in the cavities of an object

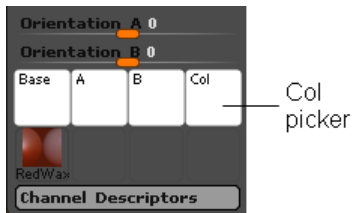




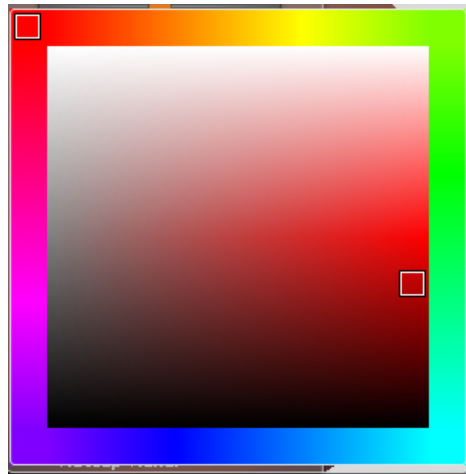
**Figure 8-32** Color of the raised surfaces converted to gray



**Figure 8-33** Color of the cavities converted to gray



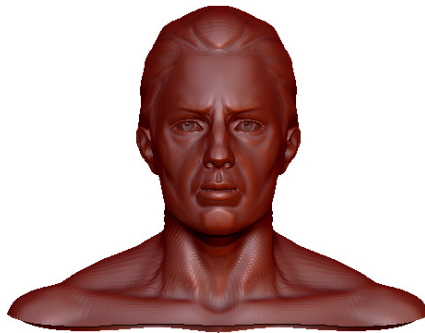
**Figure 8-34** The Col picker in the Modifiers subpalette



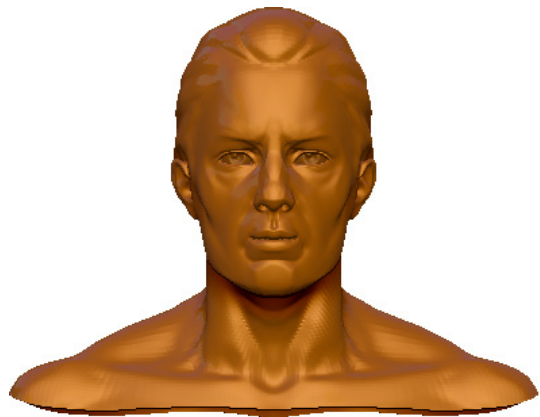
**Figure 8-35** Choosing a color from the color swatch



**Figure 8-36** The surface facing the canvas filled with color



**Figure 8-37** The surface facing away from the canvas filled with color



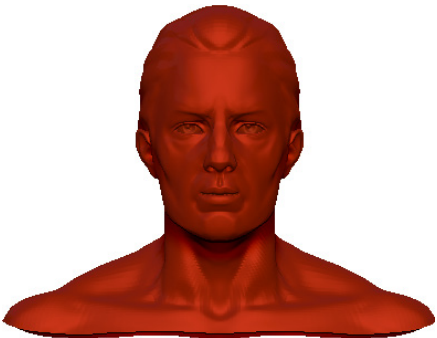
**Figure 8-38** The ReflectYellow material assigned to the model



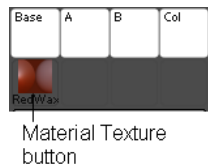
**Figure 8-39** Red color chosen from the color picker



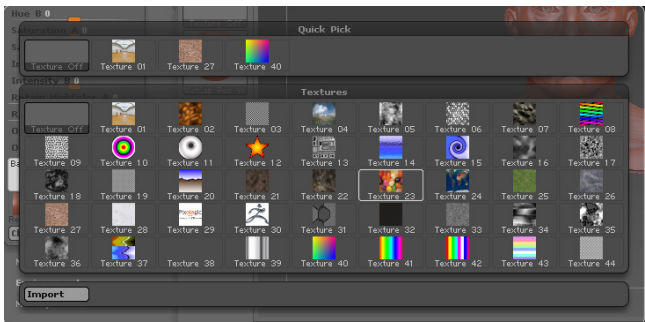
**Figure 8-40** Red color applied to the model



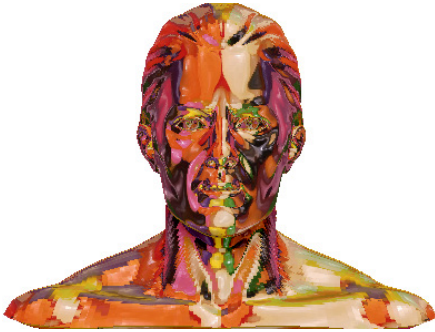
**Figure 8-41** Red and yellow colors blended together



**Figure 8-42** The Material Texture button



**Figure 8-43** The flyout displayed on choosing the Material Texture button



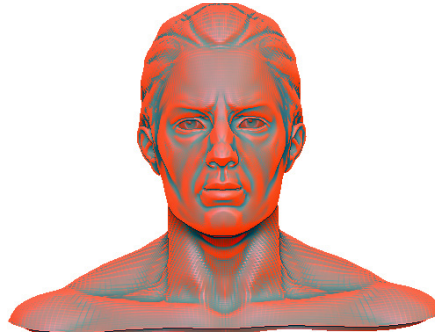
**Figure 8-44** The texture applied to the model



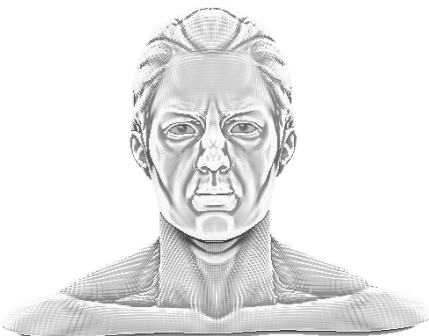
**Figure 8-45** The texture blurred using the *Blur* slider



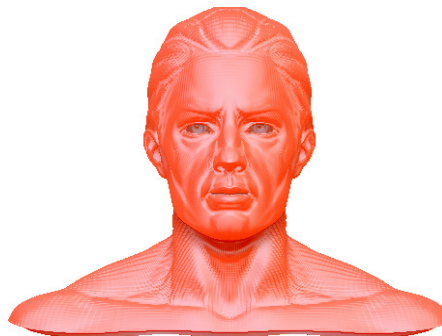
**Figure 8-46** Yellow color applied to the raised surfaces of the model



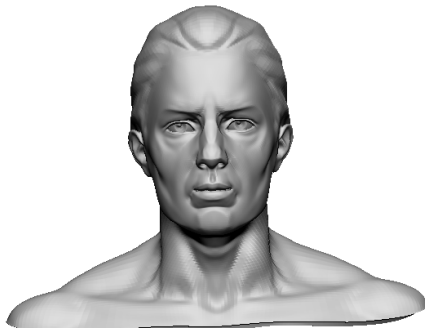
**Figure 8-47** Blue color applied to the cavities of the model



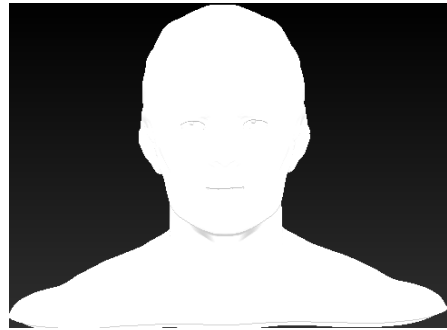
**Figure 8-48** The color of the model desaturated



**Figure 8-49** The intensity of the color increased



**Figure 8-50** The *BasicMaterial* material applied to the model



**Figure 8-51** Ambient light applied to the material



**Figure 8-52** Red color disappeared from the model



**Figure 8-53** Intensity of the red color increased



**Figure 8-54** Specularity applied to the material

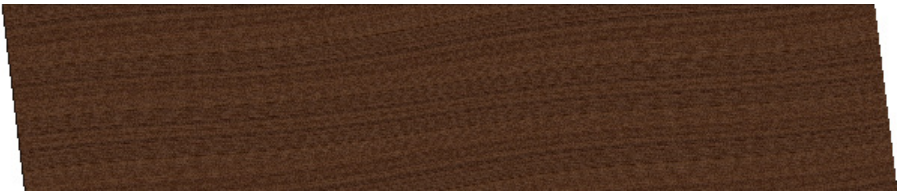


Figure 8-55 The *GradientMap2* material applied to the plane



Figure 8-56 A new layer created in the *Layer* palette

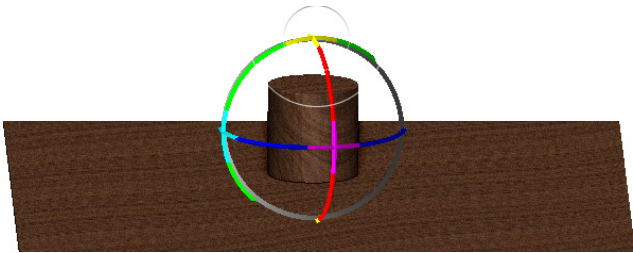
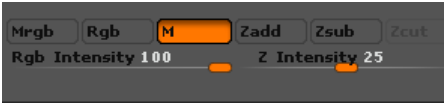


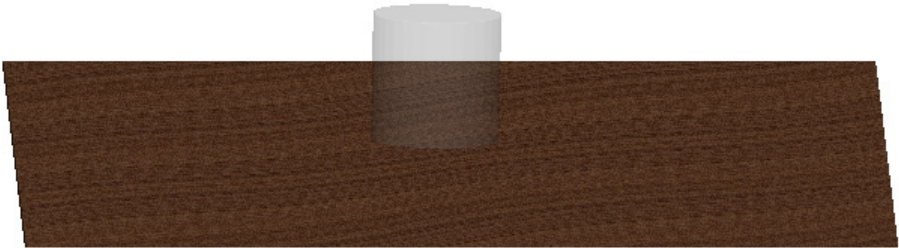
Figure 8-57 The cylinder moved up using the gyro



*Figure 8-58* The **M** button chosen in the top shelf

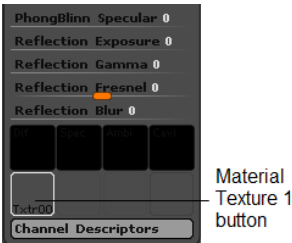


*Figure 8-59* The **Flatten** button chosen in the **Render** palette



*Figure 8-60* Transparency displayed in the cylinder

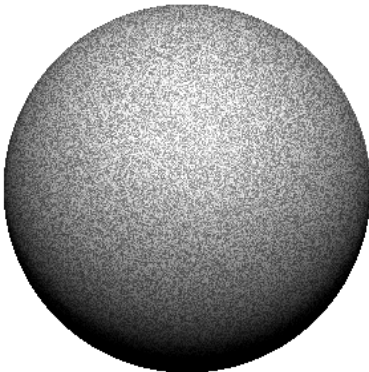




*Figure 8-61 The Material Texture 1 button chosen*



*Figure 8-62 The texture reflected from the surface of the model*



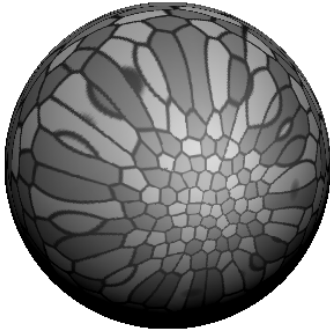
*Figure 8-63 The value of the Noise slider set to 0.4*



*Figure 8-64 The value of the Noise Radius slider set to 75*



*Figure 8-65 Bumpiness displayed in the noise applied to the material*



*Figure 8-66 Bumpiness displayed in the texture*

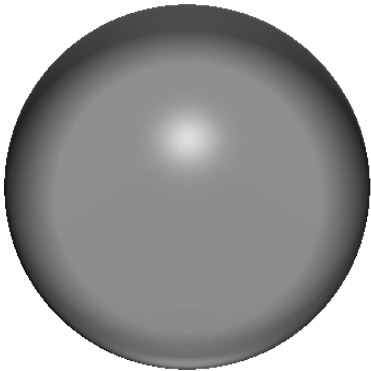


Figure 8-67 Gel shading applied to the sphere

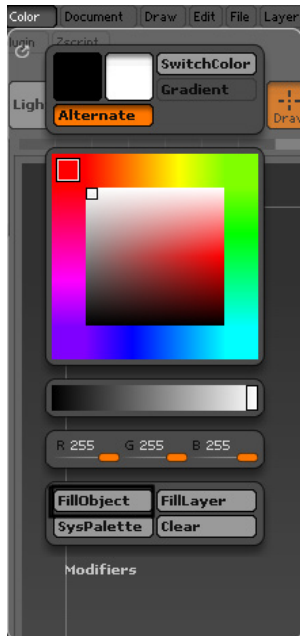


Figure 8-68 The *Render* palette



Figure 8-69 The environmental reflection displayed on rendering





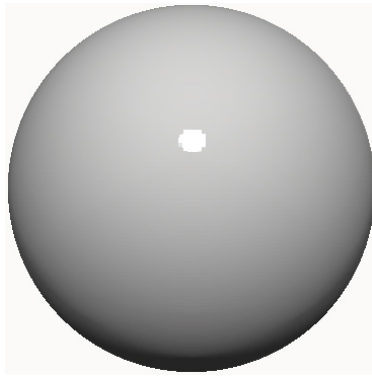
*Figure 8-70 The **FillObject** button in the **Color** palette*



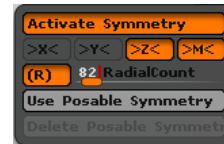
*Figure 8-71 Different materials painted on the surface of the sphere*



*Figure 8-72 The model of an eyeball*



**Figure 8-73** The white color applied to the sphere



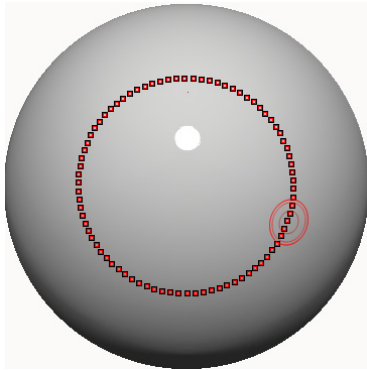
**Figure 8-74** The value of the *RadialCount* slider set to 82



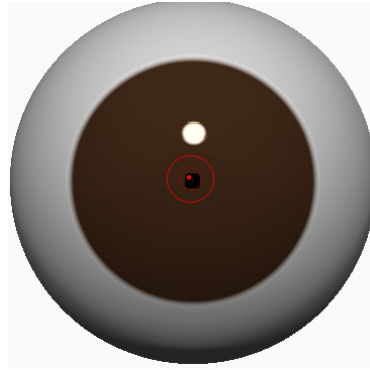
**Figure 8-75** The *FillObject* button chosen in the *Color* palette



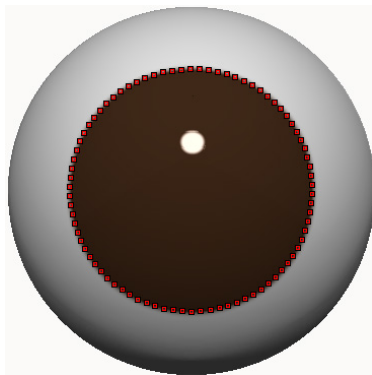
**Figure 8-76** The values of the *R*, *G*, and *B* sliders set



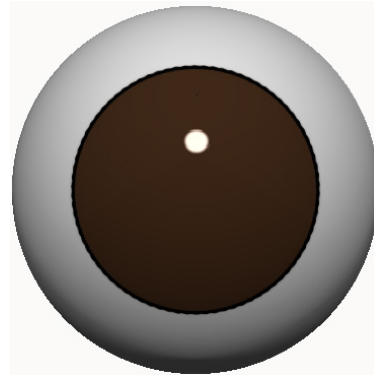
**Figure 8-77** *The cursor hovered on the surface of the sphere*



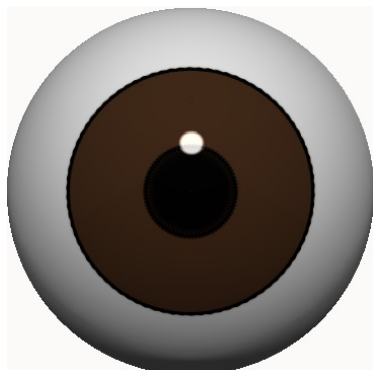
**Figure 8-78** *The iris created for the eyeball*



**Figure 8-79** *The cursor hovered on the circumference of the iris*



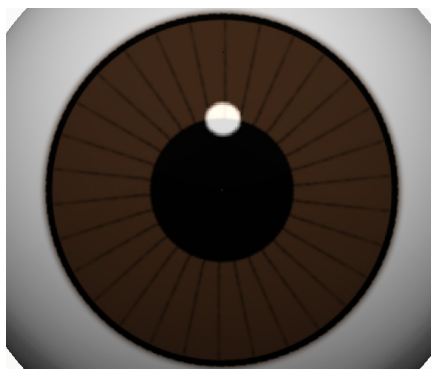
**Figure 8-80** *An outline created for the iris*



**Figure 8-81** Pupil created for the eyeball



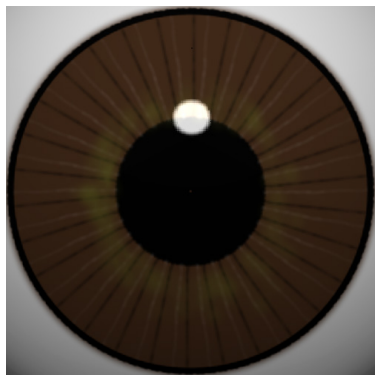
**Figure 8-82** The value of the **Rgb Intensity** slider set to 20



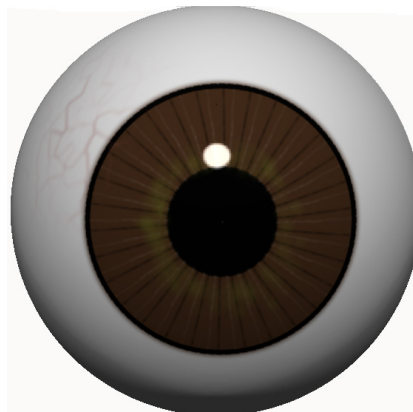
**Figure 8-83** Thin lines created on the surface of the iris



**Figure 8-84** More lines created on the surface of the iris



**Figure 8-85** Detail added to the iris



**Figure 8-86** A pattern created on the white area of the eyeball



**Figure 8-87** *More patterns created on the white area of the eyeball*



**Figure 8-88** *The model of the ring*



*Figure 8-89 The value of the SRadius slider set to 14*



*Figure 8-90 The shape of the ring changed*



*Figure 8-91 A rectangular stroke created on the surface of the ring*



*Figure 8-92 The mask removed from the ring*



Figure 8-93 The gold material applied to the ring



Figure 8-94 The value of the Intensity A slider set to 5

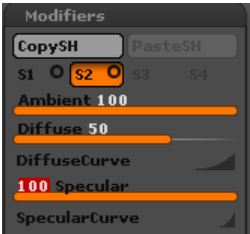


Figure 8-95 The values of the Ambient and Specular sliders set to 100



Figure 8-96 The Del Lower button chosen in the Geometry subpalette



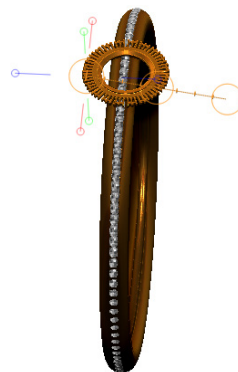
Figure 8-97 Diamonds created in the recessed area of the ring



Figure 8-98 Ring snapped horizontally with the canvas



**Figure 8-99** A golden mesh inserted in the ring



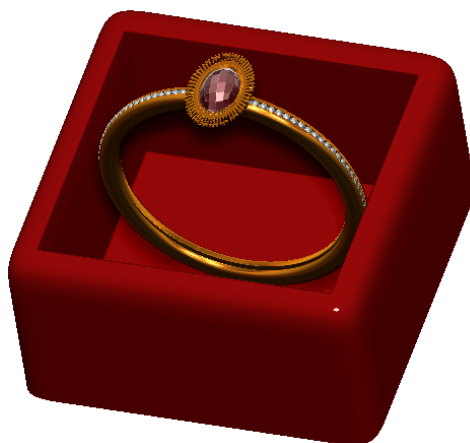
**Figure 8-100** The golden mesh adjusted using the action line



**Figure 8-101** The size of the golden mesh increased along the Z-axis



**Figure 8-102** The red stone fitted inside the golden mesh

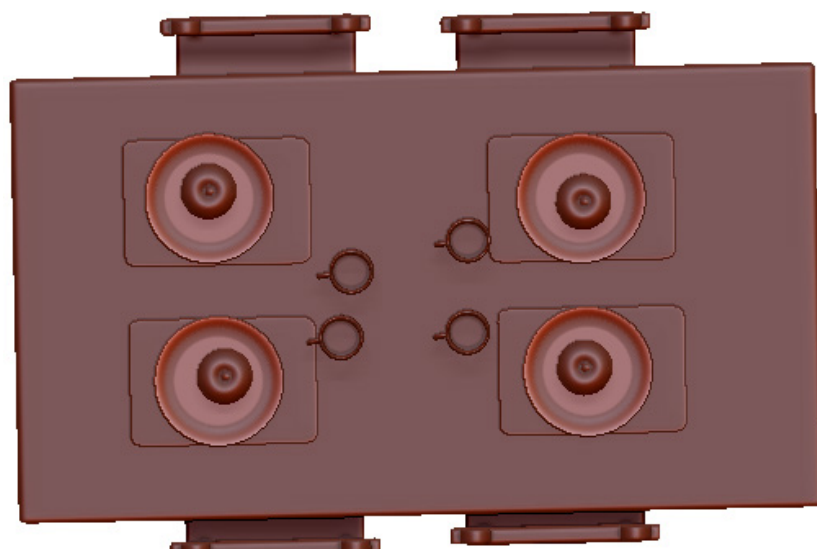


**Figure 8-103** The ring placed inside the ring box





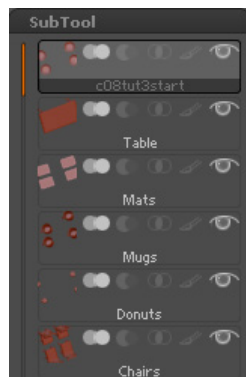
*Figure 8-104 The final output of the scene*



*Figure 8-105 The scene displayed in the canvas*



**Figure 8-106** *The view of the canvas rotated*



**Figure 8-107** *The first subtool chosen from the list*



**Figure 8-108** *Visibility of other subtools turned off*



**Figure 8-109** *The plates displayed in the canvas*



Figure 8-110 The *FillObject* button chosen

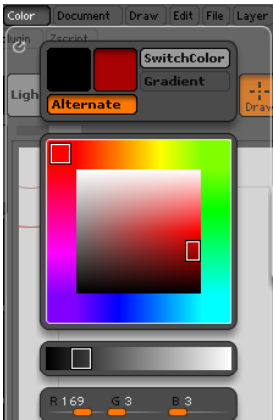


Figure 8-111 The values of the *R*, *G*, and *B* sliders set



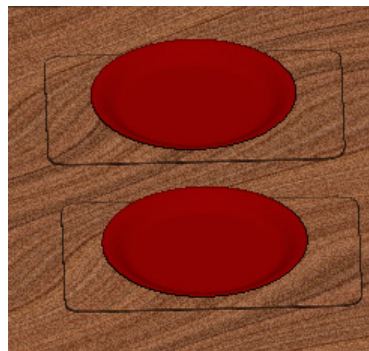
Figure 8-112 The material applied to the plates



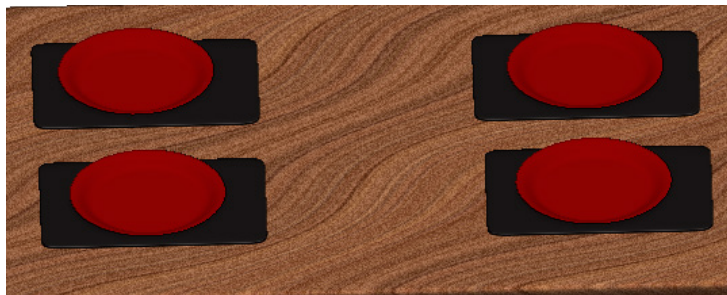
*Figure 8-113 The **GradientMap2** material applied to the table*



*Figure 8-114 The values of the **Diffuse** and **Specular** sliders set*



*Figure 8-115 The **GradientMap2** material applied to the mats*



*Figure 8-116 The **SoftPlastic** material applied to the mats*



Figure 8-117 The *Metallic01* material applied to the mugs

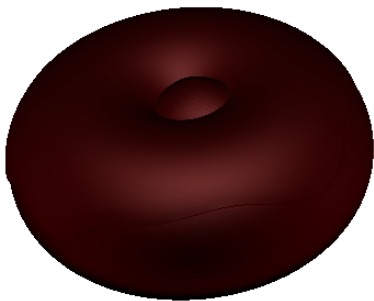


Figure 8-118 The *Metallic01* material applied to the donut

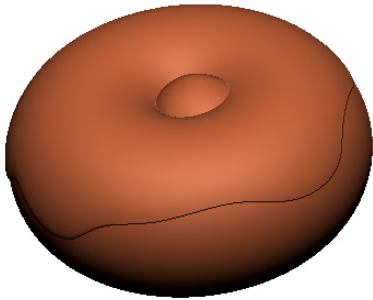


Figure 8-119 The *BasicMaterial* material applied to the donut

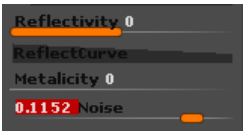


Figure 8-120 The value of the *Noise* slider set to 0.1152

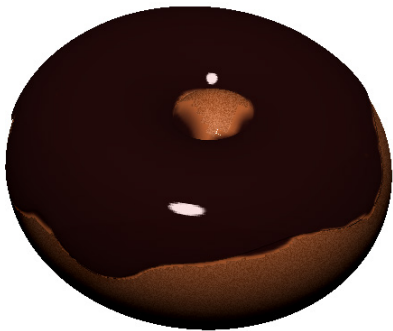


Figure 8-121 A chocolate layer created on the extruded part of the donut



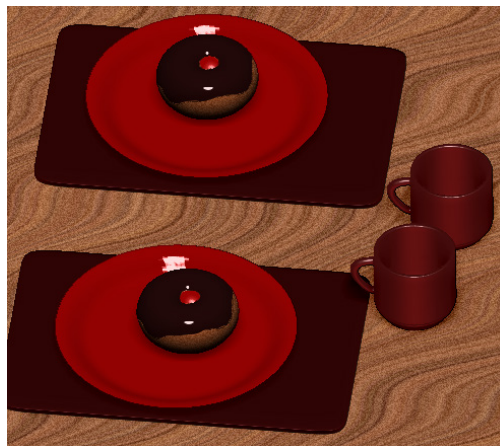
*Figure 8-122 The chocolate layer created on all the donuts*



*Figure 8-123 The value of the Ambient slider set to 100*



*Figure 8-124 The JellyBean material painted on the middle part of the donut*



*Figure 8-125 The visibility of all the subtools turned on*



*Figure 8-126 The **GradientMap2** material applied to the chairs*



*Figure 8-127 Model of a cake*





*Figure 8-128 Model of a hut*



*Figure 8-129 The final output*



# ***Chapter 9***

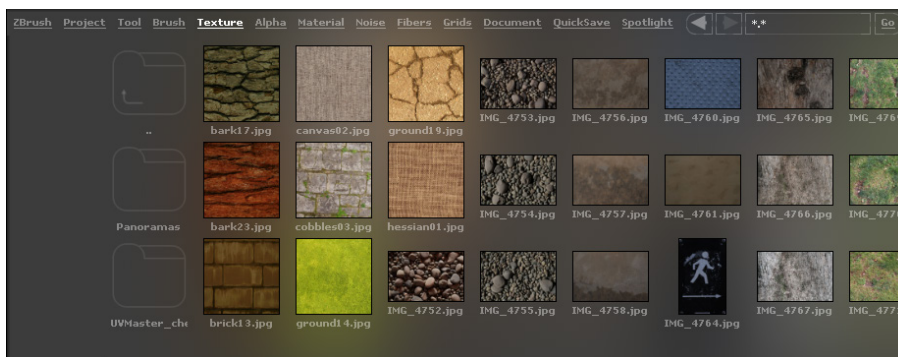
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## ***Texturing in ZBrush***





*Figure 9-1 The flyout displayed on choosing the Current Texture button*



*Figure 9-2 The textures displayed in the Texture tab of the LightBox browser*

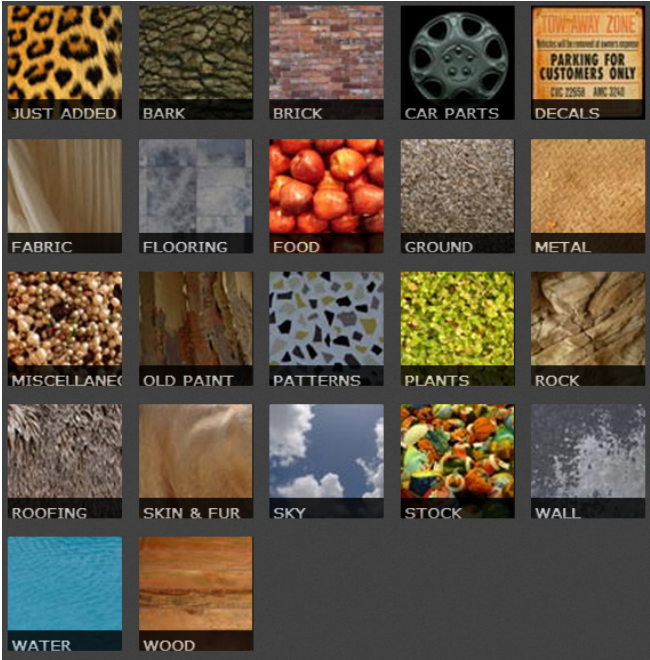
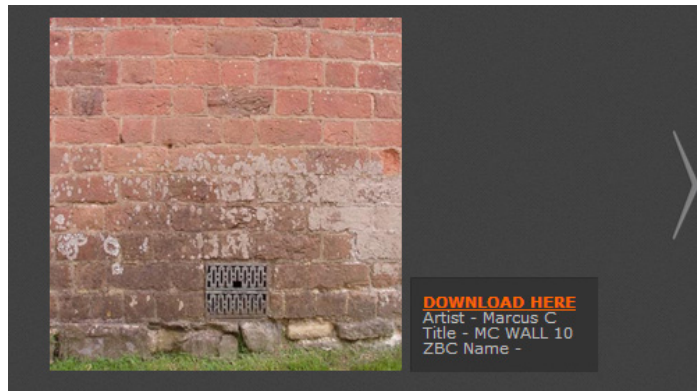


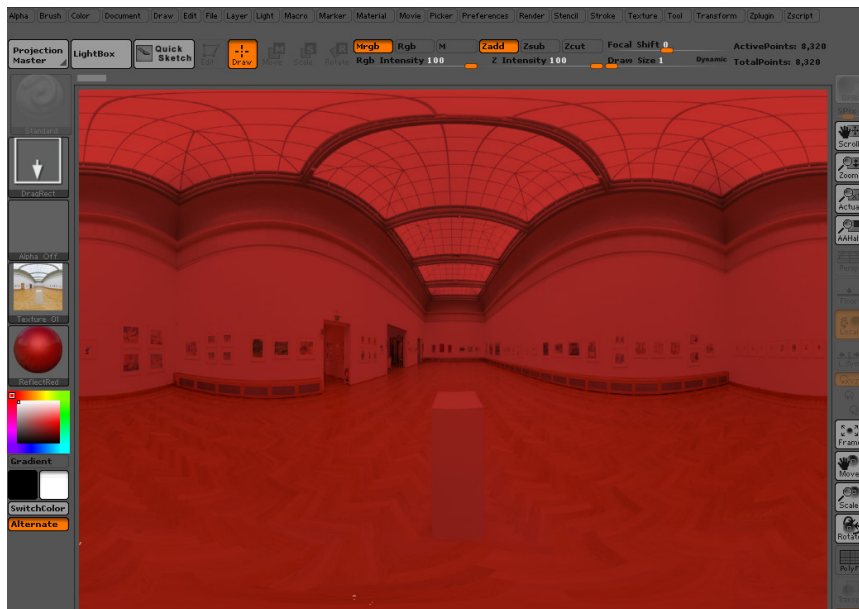
Figure 9-3 The textures in the *Texture Library* tab



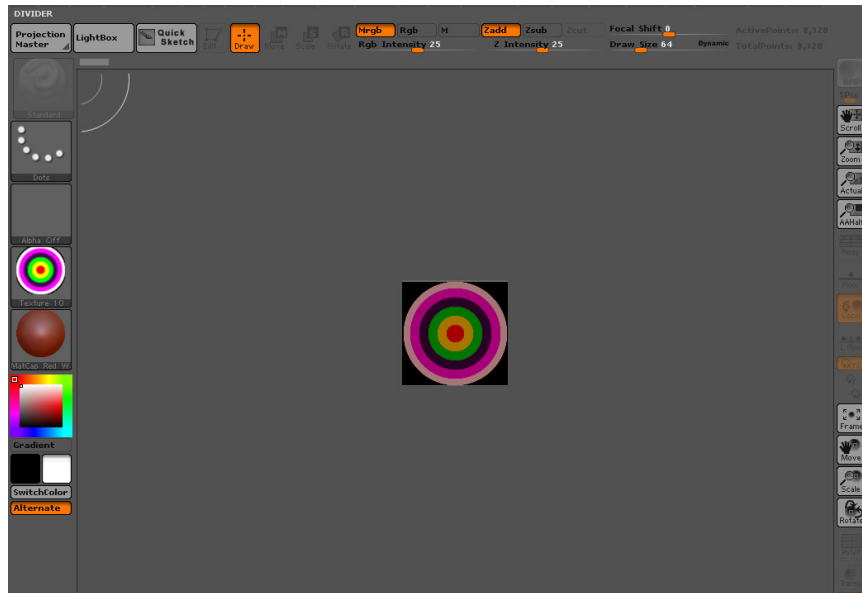
Figure 9-4 The different brick texture displayed



*Figure 9-5 The preview of the brick texture*



*Figure 9-6 The canvas filled with the texture and the material*



*Figure 9-7 The document cropped and filled with Texture 10*



*Figure 9-8 A new texture image with the name ZGrab01 displayed in the flyout*



Figure 9-9 The Texture palette

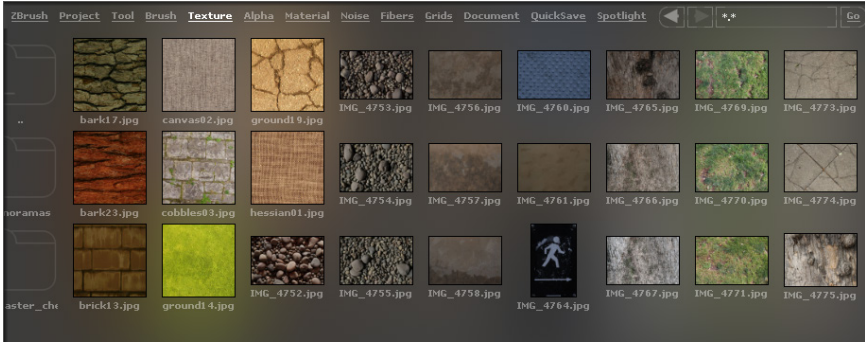
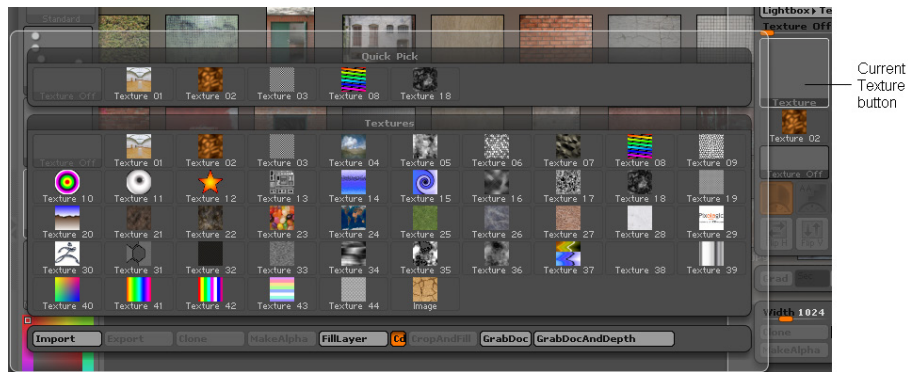


Figure 9-10 The texture images displayed in the LightBox browser



*Figure 9-11 The flyout displayed on choosing the Current Texture button*



*Figure 9-12 The texture image displayed*



*Figure 9-13 The texture image flipped horizontally*



*Figure 9-14 The texture image displayed*

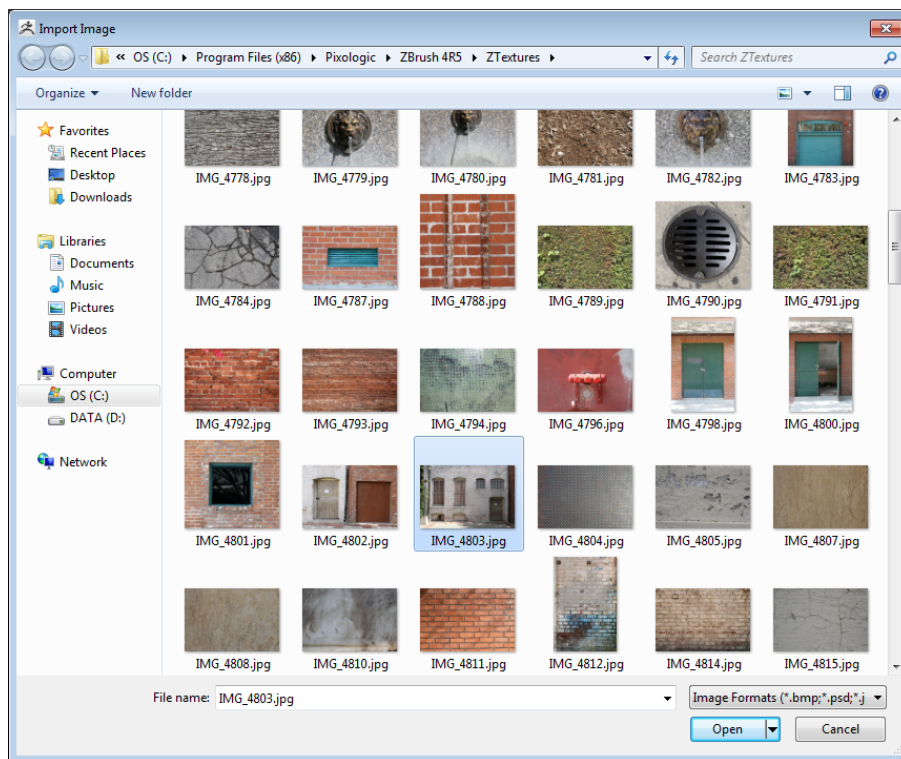


*Figure 9-15 The colors in the texture image inverted*



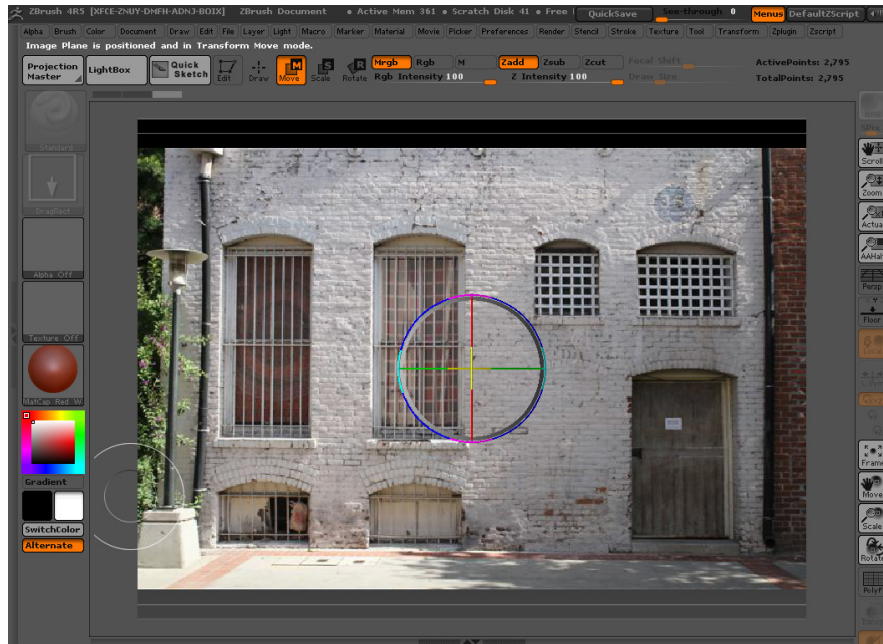


*Figure 9-16 The Image Plane subpalette*



*Figure 9-17 The Import Image dialog box*

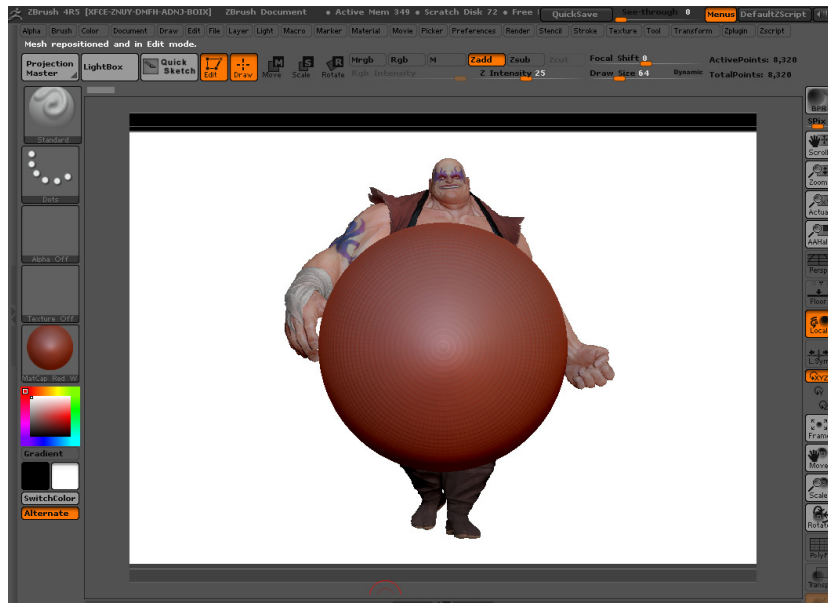




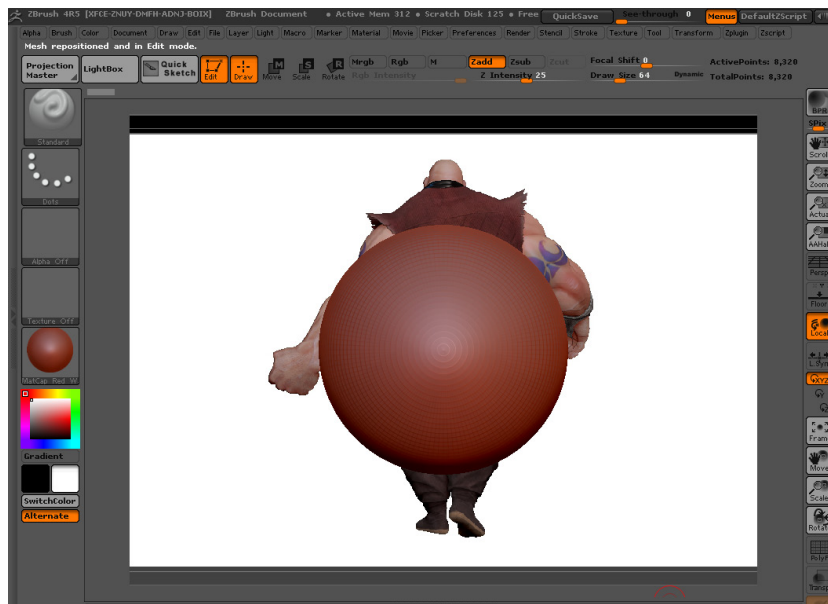
*Figure 9-18 The reference image displayed in the canvas*



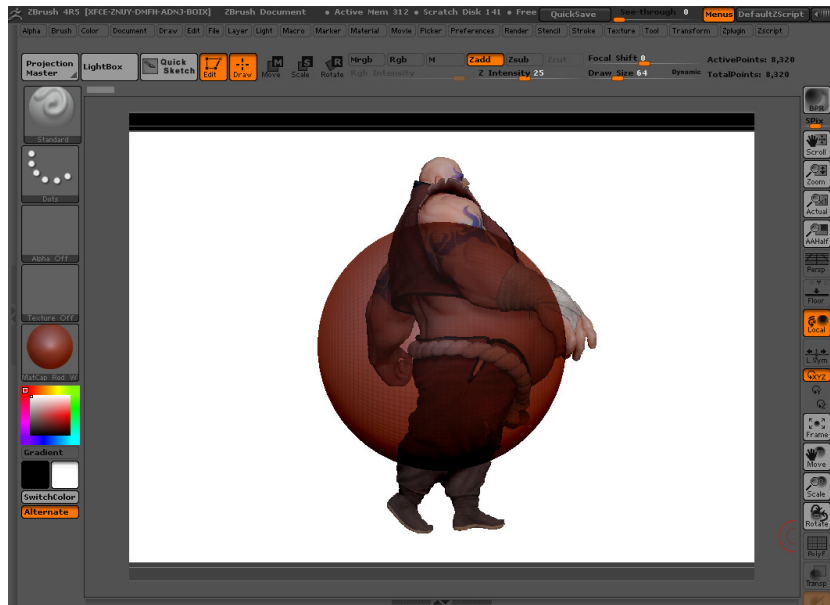
*Figure 9-19 The Load Image button chosen*



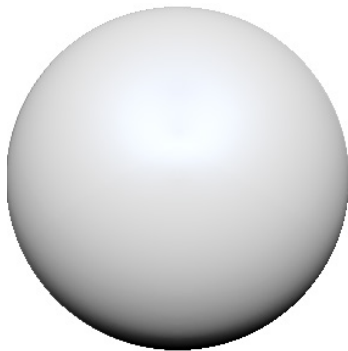
**Figure 9-20** The front view of the reference image displayed behind the sphere



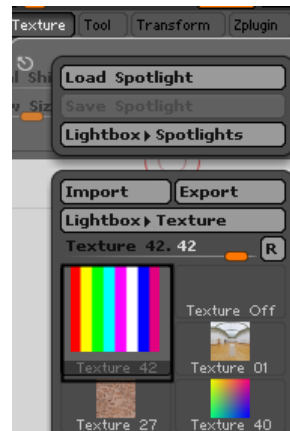
**Figure 9-21** The back view of the sphere and the reference image displayed in the canvas



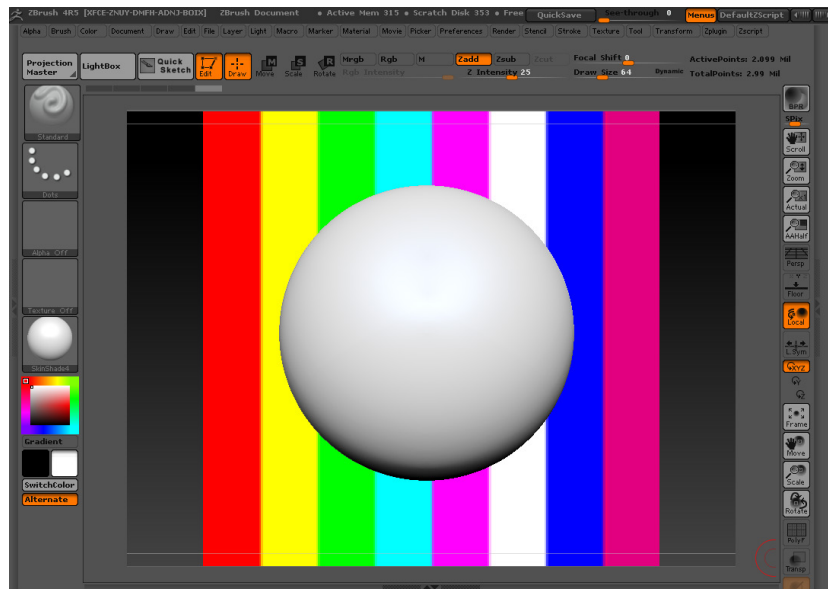
*Figure 9-22 The transparency in the sphere displayed*



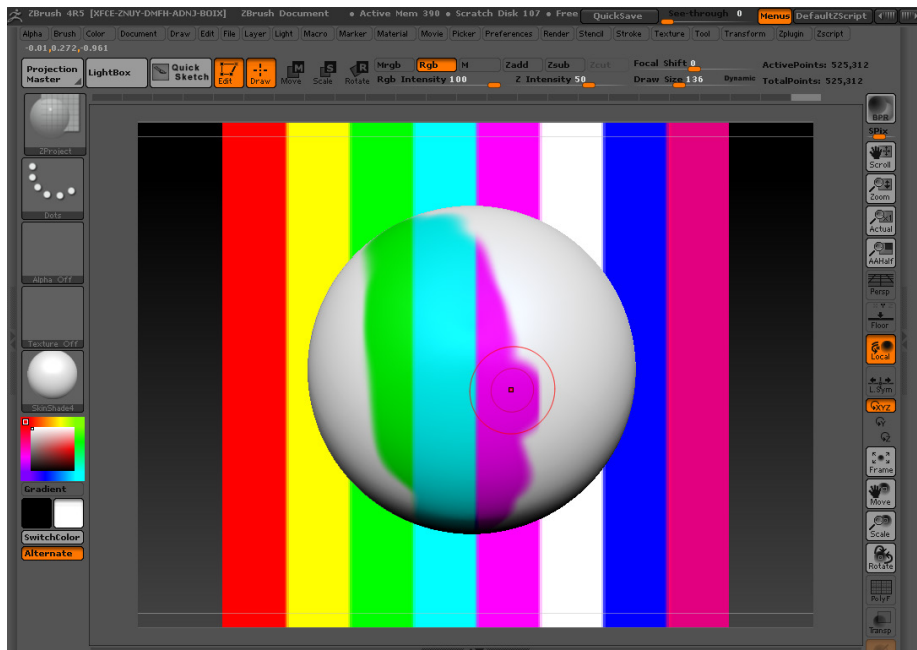
*Figure 9-23 The material applied to the sphere*



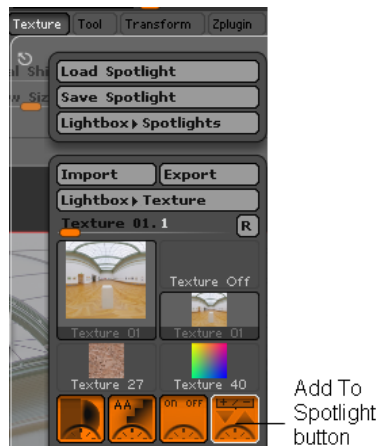
*Figure 9-24 The texture image displayed in the Current Texture button*



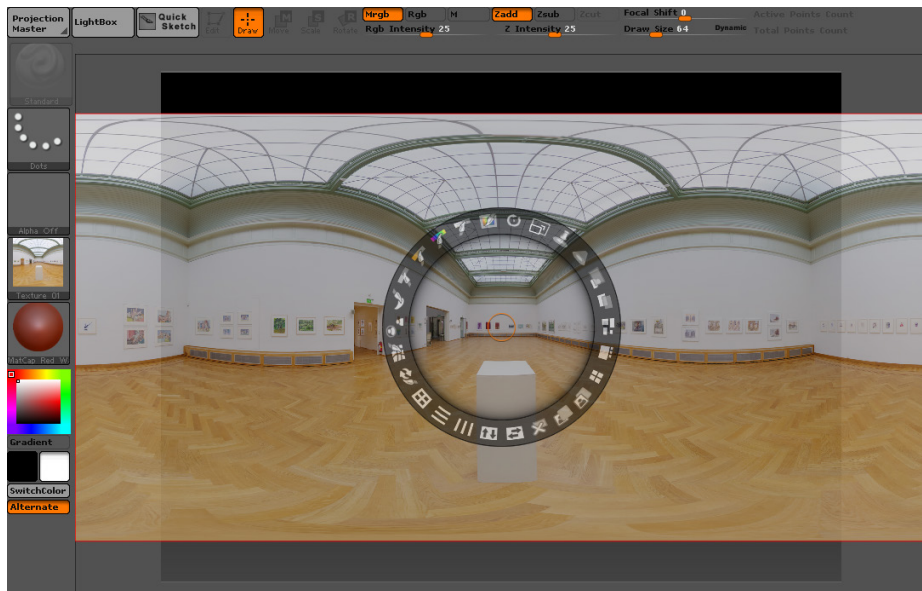
*Figure 9-25 The texture image displayed behind the sphere*



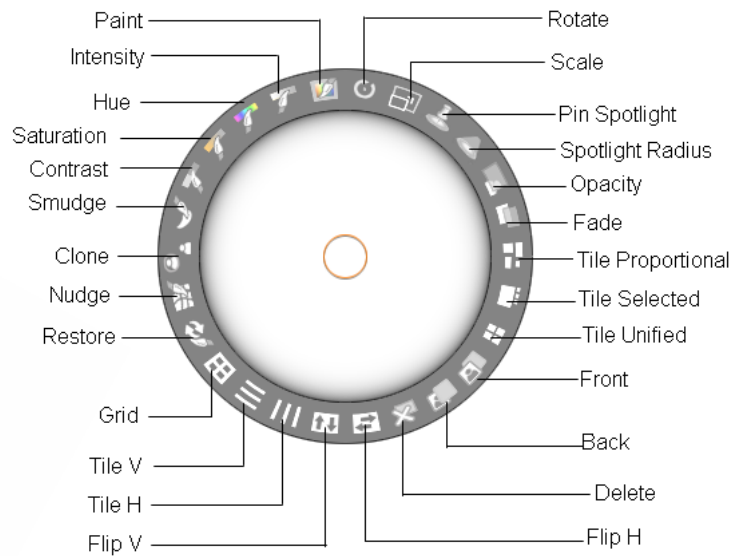
*Figure 9-26 The texture projected from the texture image into the sphere*



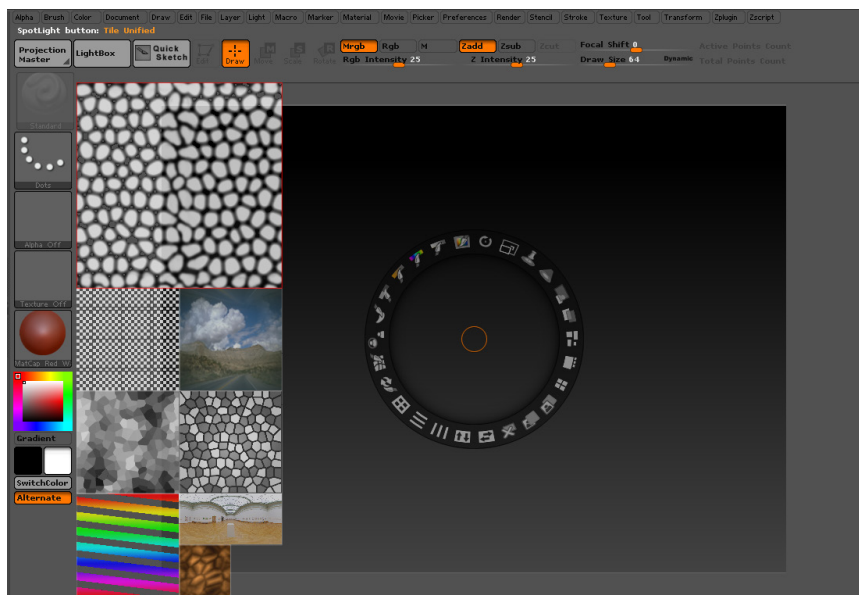
*Figure 9-27 The Add To Spotlight button chosen*



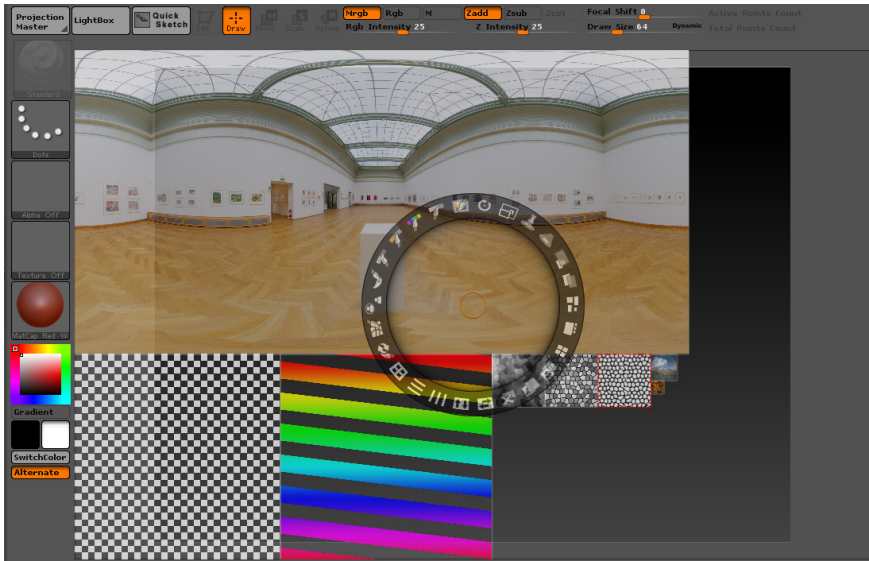
*Figure 9-28 The texture image and the ring displayed in the canvas*



*Figure 9-29 The different icons in the ring*



*Figure 9-30 The chosen images displayed in the canvas*

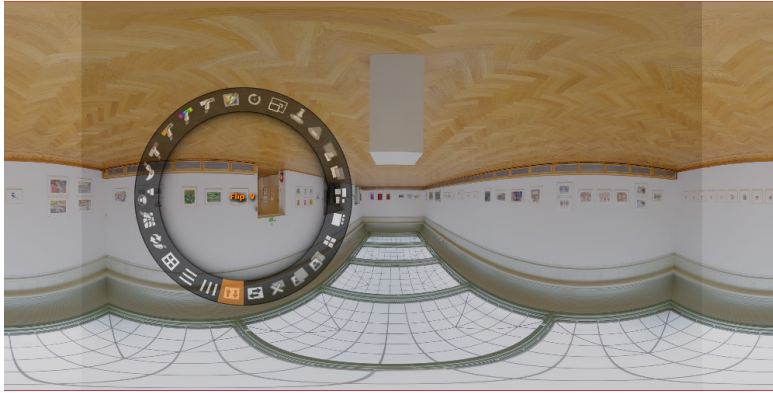


*Figure 9-31 The images stacked together proportionately*

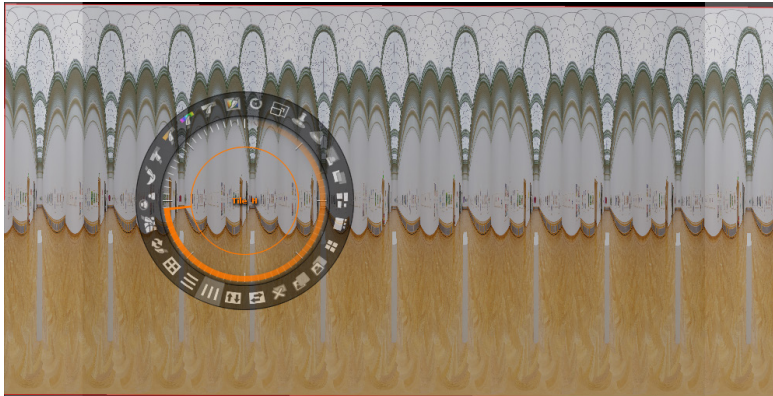


*Figure 9-32 The image flipped horizontally*

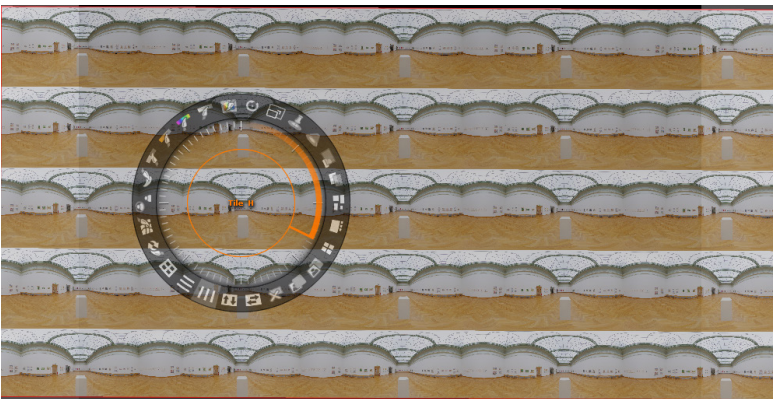




*Figure 9-33 The image flipped vertically*



*Figure 9-34 The image tiled horizontally*



*Figure 9-35 The image tiled horizontally and vertically*

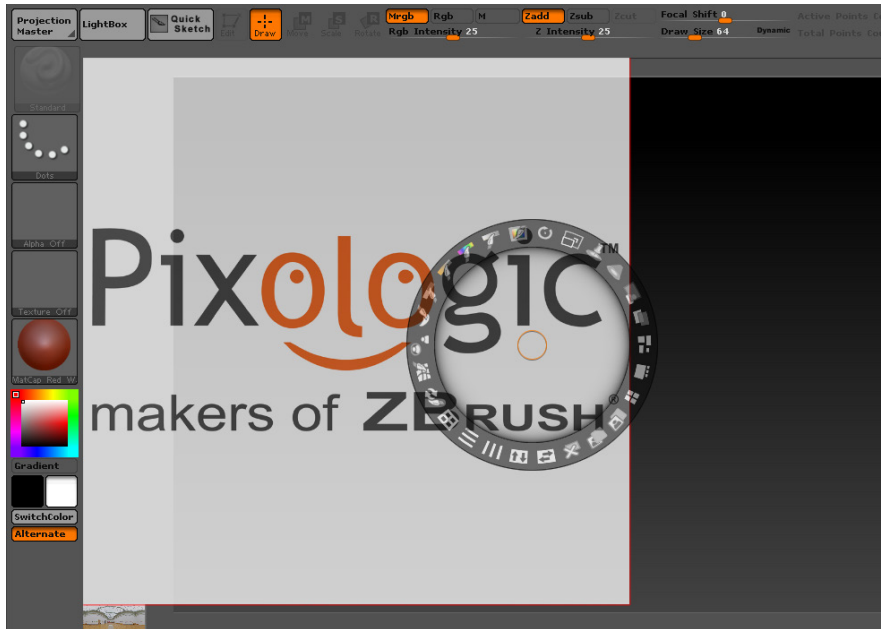




*Figure 9-36 The grid pattern displayed on the image*



*Figure 9-37 The chessboard pattern displayed on the image*



*Figure 9-38 Texture 01 and Texture 29 images added to the Spotlight*



*Figure 9-39 Texture images scaled and moved*



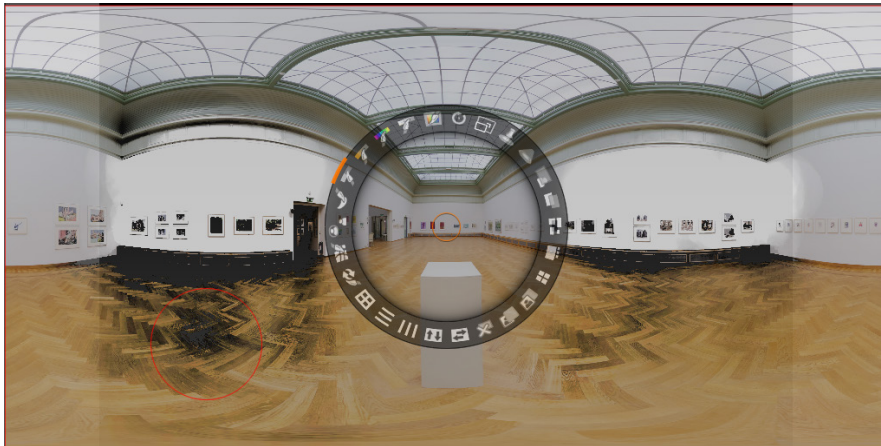
*Figure 9-40 Texture pasted at different locations*



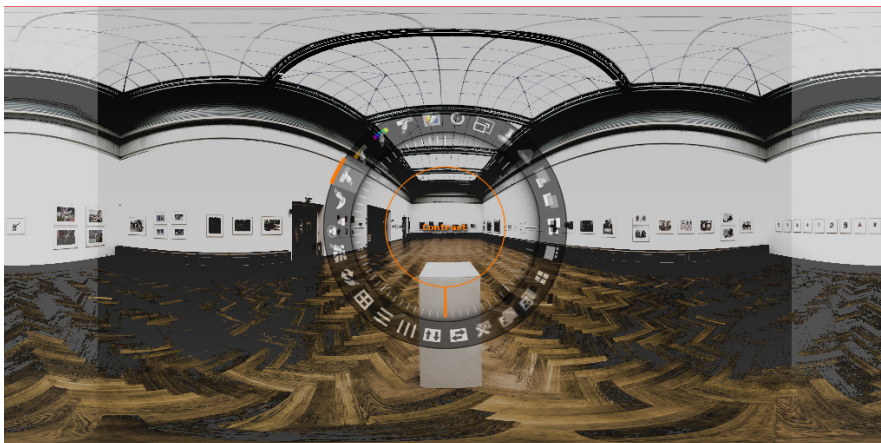
*Figure 9-41 Blur applied on the selected areas of the image*



*Figure 9-42 Blur applied on the entire image*



*Figure 9-43 Contrast applied on the selected areas of the image*



*Figure 9-44 Contrast applied on the entire image*





*Figure 9-45 The saturation increased in the selected areas of the image*



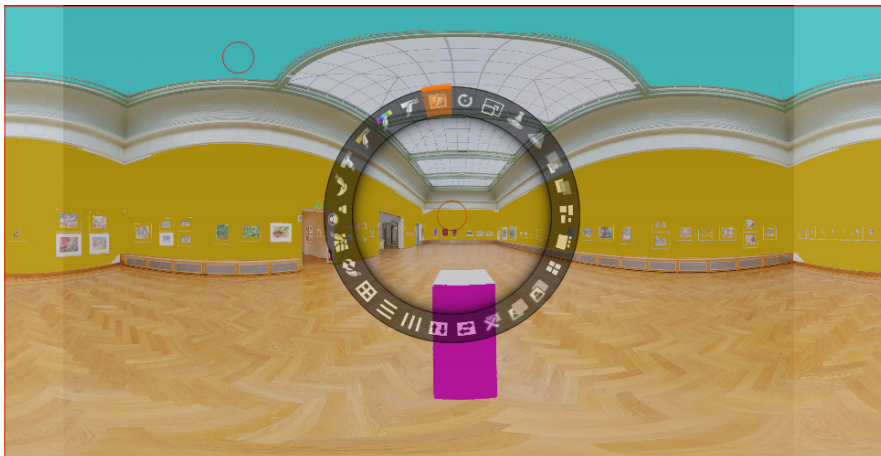
*Figure 9-46 The saturation decreased in the entire image*



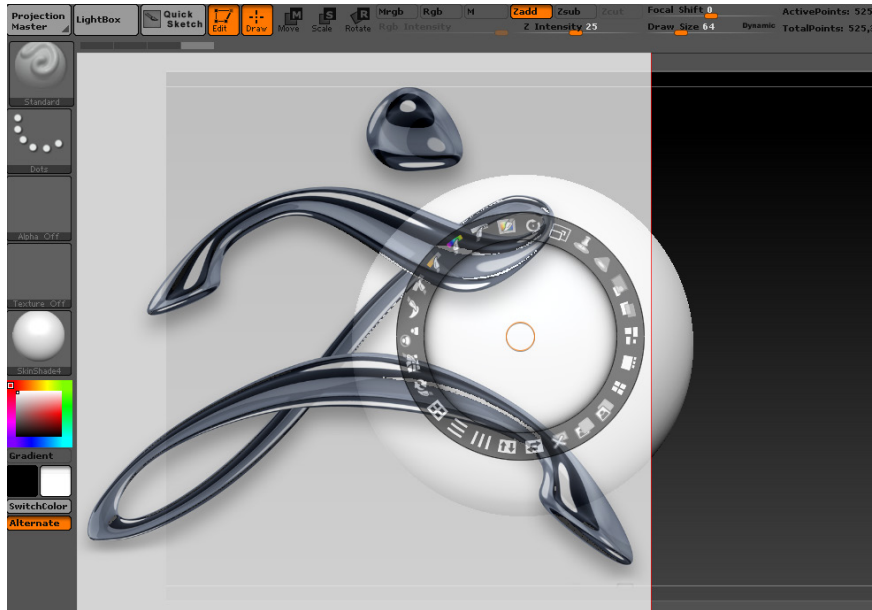
*Figure 9-47 Brightness increased in the entire image*



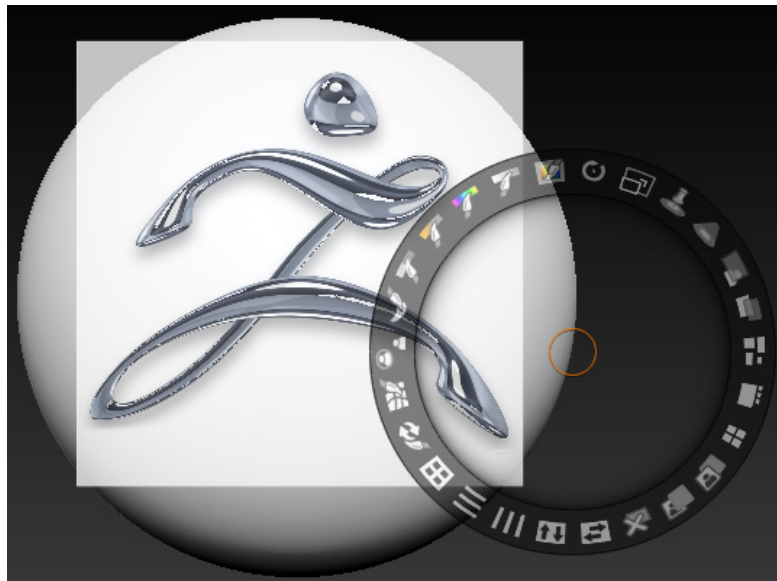
*Figure 9-48 Different colors painted on the image*



*Figure 9-49 Colors filled in the specific areas of the image*



*Figure 9-50 The texture image added to the Spotlight*



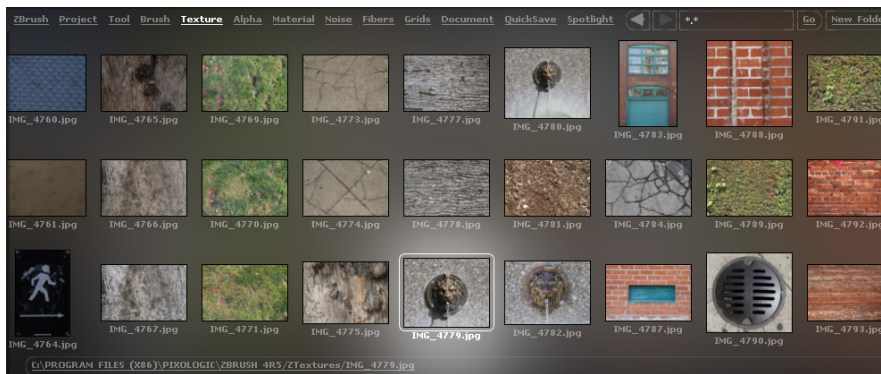
*Figure 9-51 The texture image scaled down*



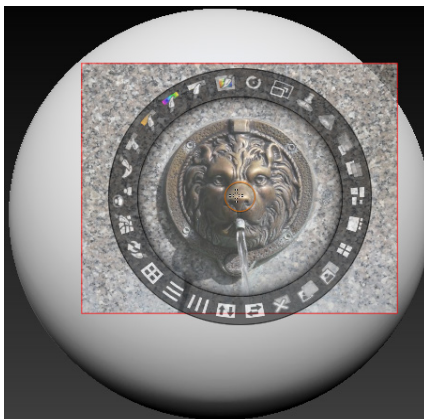
**Figure 9-52** The Texture 30 texture image projected on the sphere



**Figure 9-53** The Texture 29 texture image projected on the sphere



**Figure 9-54** The IMG\_4779.jpg texture image chosen from the browser



**Figure 9-55** The texture image scaled and positioned

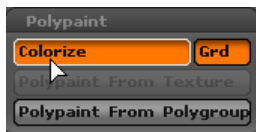


**Figure 9-56** The selected texture repeated on the surface of the sphere





*Figure 9-57 The circular preview of the texture image displayed in the canvas*



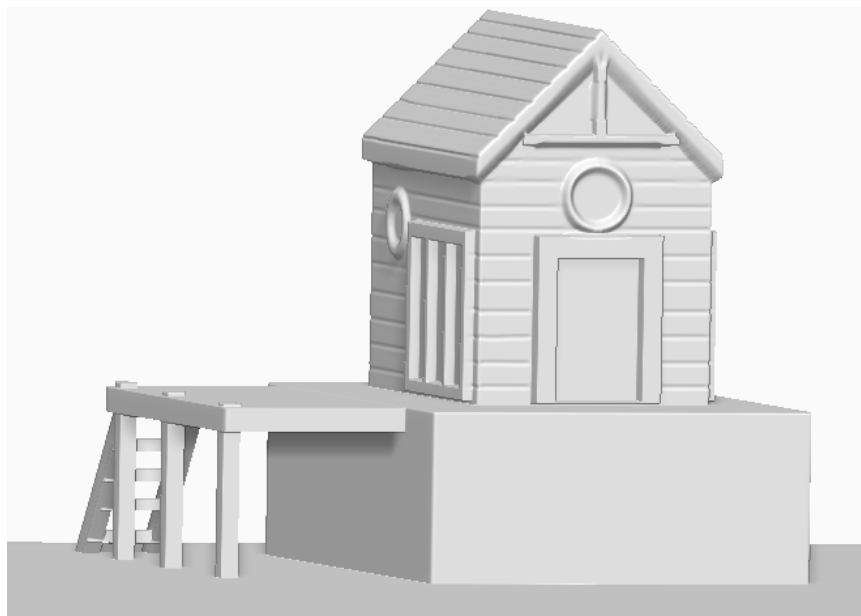
*Figure 9-58 The Colorize button chosen*



*Figure 9-59 Different colors painted on the surface of the sphere*



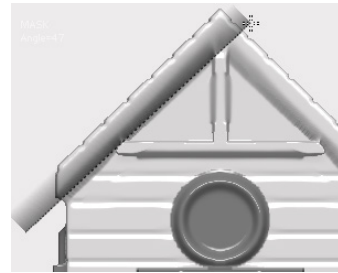
*Figure 9-60 The textured model of the hut*



*Figure 9-61 The untextured model of the hut*



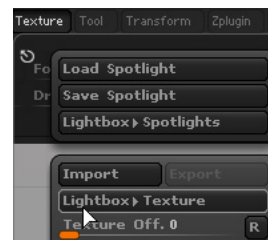
**Figure 9-62** Masks created on the door, windows, and ventilators of the hut



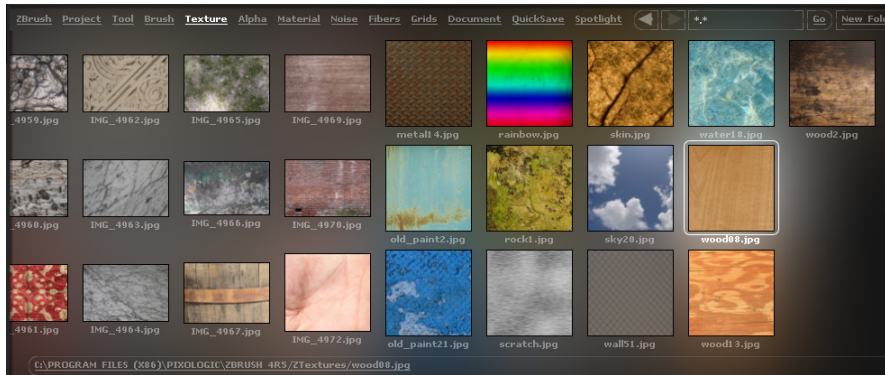
**Figure 9-63** Mask created on the roof of the hut using the **MaskCurve** brush



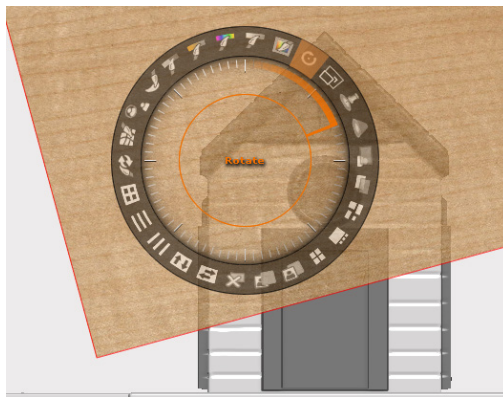
**Figure 9-64** Mask created on the top area of the hut



**Figure 9-65** The **LightBox Textures** button chosen



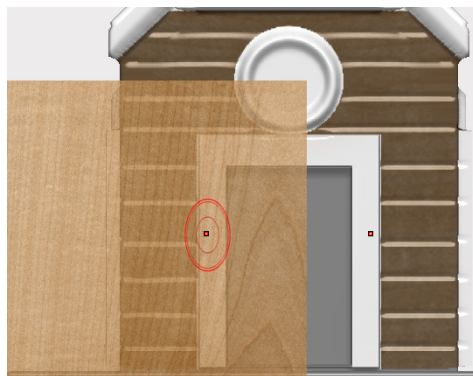
*Figure 9-66 The wood08.jpg texture image chosen from the LightBox browser*



*Figure 9-67 The texture image rotated in the canvas*



*Figure 9-68 The texture projected on the unmasked areas of the hut*



*Figure 9-69 The texture image rotated in the canvas*



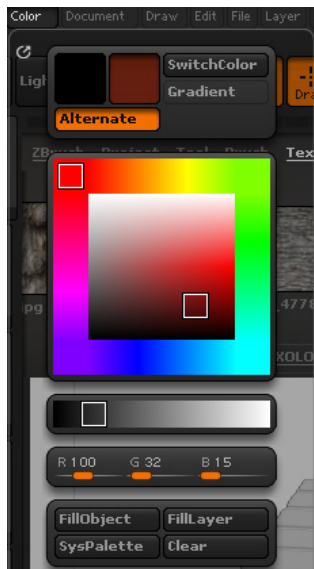
*Figure 9-70 The mask removed from the surface of the hut*



**Figure 9-71** The texture image moved and rotated in the canvas



**Figure 9-72** The mask removed from the surface of the hut



**Figure 9-73** The values of the *R*, *G*, and *B* sliders set



**Figure 9-74** Mask removed from the inner part of the ventilator



**Figure 9-75** The frame of the ventilator painted



**Figure 9-76** The frame of the window painted



**Figure 9-77** The mask removed from the hut



**Figure 9-78** The mask applied on the window panes and the inner area of the ventilators



**Figure 9-79** The texture image displayed in the canvas



**Figure 9-80** The texture projected on the window panes of the hut





**Figure 9-81** The texture image displayed in the canvas



**Figure 9-82** The texture displayed on the ventilators



**Figure 9-83** The inverted mask



**Figure 9-84** The paint applied on the top area of the hut



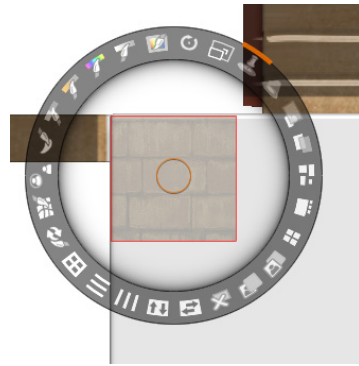
**Figure 9-85** The color painted on the top windows



**Figure 9-86** The texture image placed on the staircase area



**Figure 9-87** The texture projected on the staircase area



**Figure 9-88** The texture image moved and scaled down



**Figure 9-89** The texture projected on the front side of the base



**Figure 9-90** The texture projected on all the sides of the base

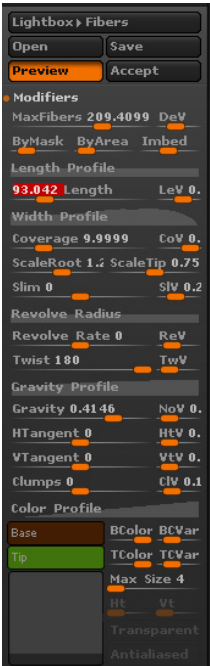


**Figure 9-91** The texture projected on the floor of the base



**Figure 9-92** A mask created on the top of the ground





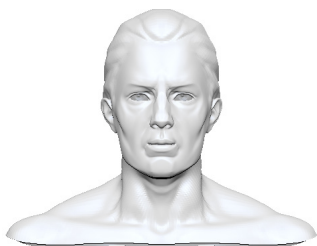
*Figure 9-93 The values of the sliders set*



*Figure 9-94 The grass displayed on the ground*



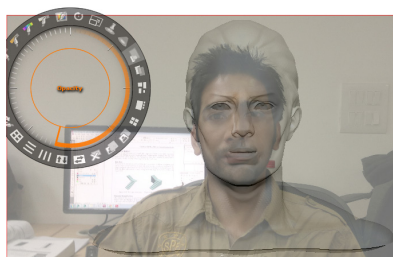
*Figure 9-95 The textured face*



**Figure 9-96** A SkinShade4 material applied to the model



**Figure 9-97** A texture image displayed in the canvas



**Figure 9-98** The transparency in the image increased



**Figure 9-99** The cursor dragged on the surface of the image



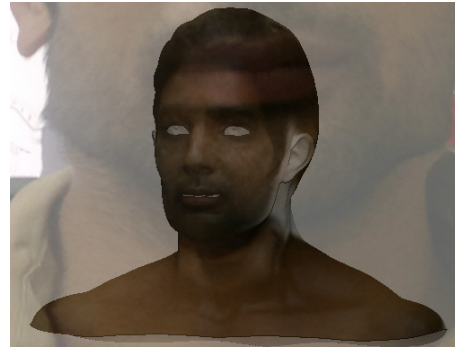
**Figure 9-100** The image manipulated using the Nudge icon



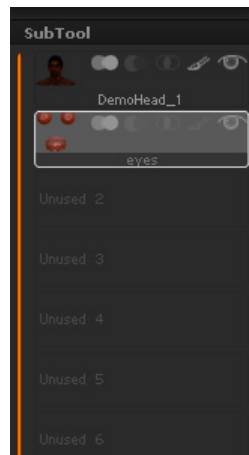
**Figure 9-101** The cursor dragged on the face area of the texture image



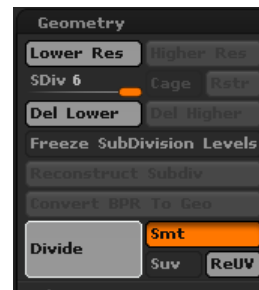
**Figure 9-102** The projected texture displayed on the face of the model



**Figure 9-103** The texture projected on the neck of the model



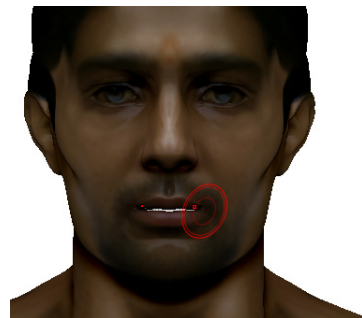
**Figure 9-104** The eyes subtool chosen from the list



**Figure 9-105** The value of the *SDiv* slider set to 6



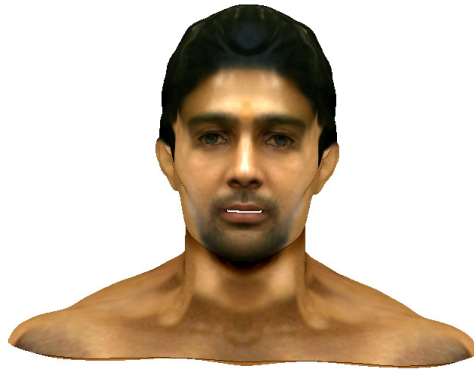
**Figure 9-106** The texture image moved to match the model



**Figure 9-107** Teeth of the model moved inward using the *Move* brush



*Figure 9-108* The values of the **Ambient** and **Diffuse** sliders set



*Figure 9-109* The texture on the model displayed clearly



*Figure 9-110* Model of the hut without textures



*Figure 9-111* Textured model of the hut

# ***Chapter 10***

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## ***UV Master***

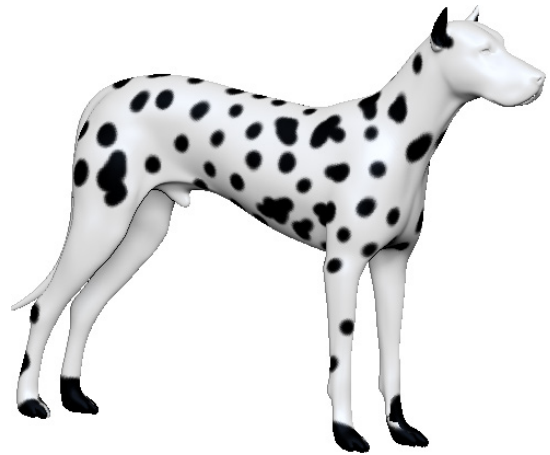




Figure 10-1 The ZPlugin palette

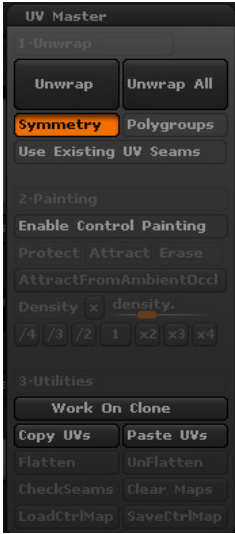


Figure 10-2 The UV Master subpalette

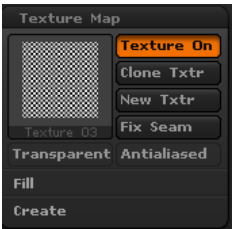


Figure 10-3 The Texture Map subpalette

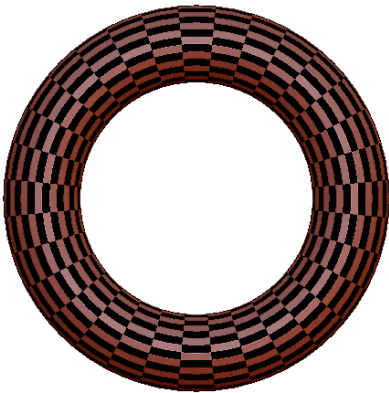
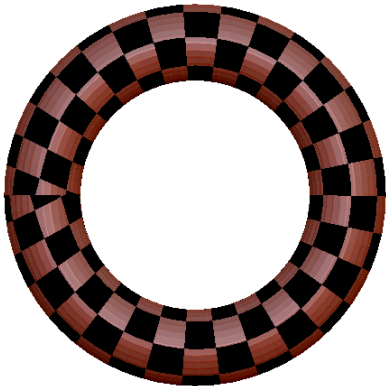


Figure 10-4 The checker texture applied to the model



*Figure 10-5* The shape of the cursor changed



*Figure 10-6* The stretching in the texture rectified

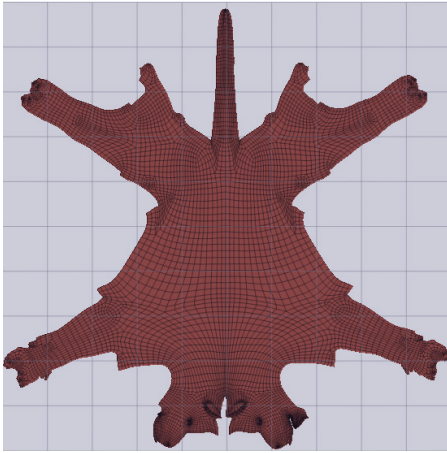


*Figure 10-7* The model loaded into the canvas

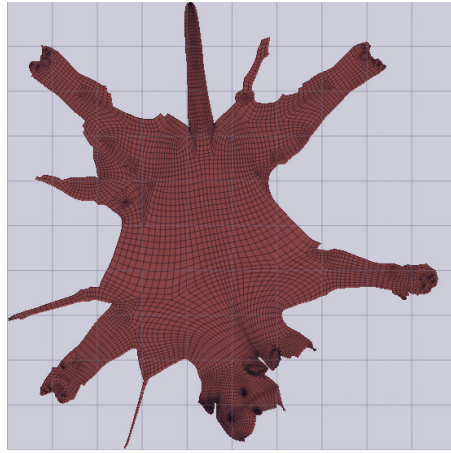


*Figure 10-8* The Flatten button chosen

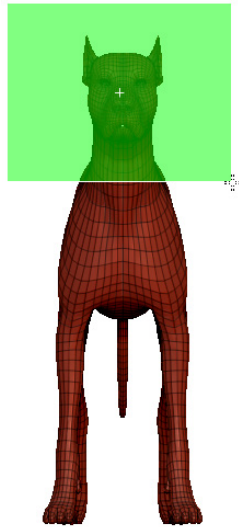




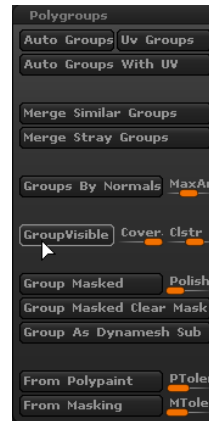
*Figure 10-9 The model flattened with the **Symmetry** button chosen*



*Figure 10-10 The model flattened with the **Symmetry** button not chosen*

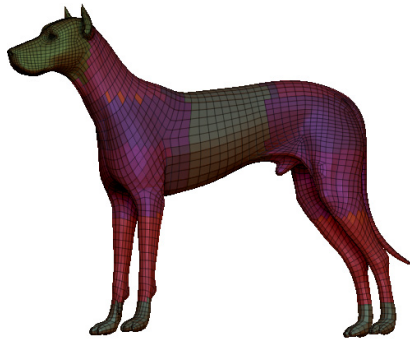


*Figure 10-11 A portion of model selected using the **SelectRect** brush*

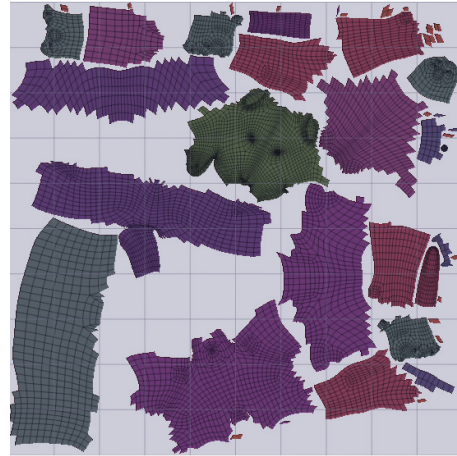


*Figure 10-12 The **GroupVisible** button chosen*





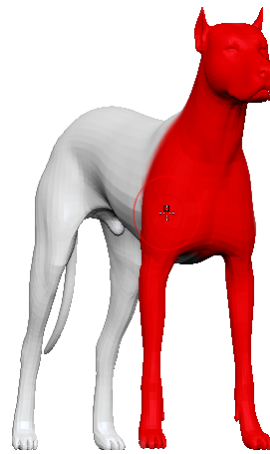
**Figure 10-13** Different polygroups created in the model



**Figure 10-14** Separate UV islands created for different polygroups



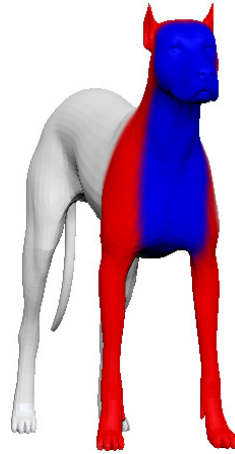
**Figure 10-15** The seams in the model displayed



**Figure 10-16** The front area of the model protected



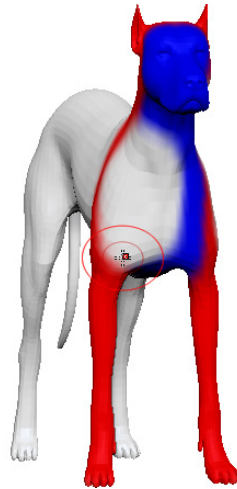
**Figure 10-17** The seam removed from the painted area



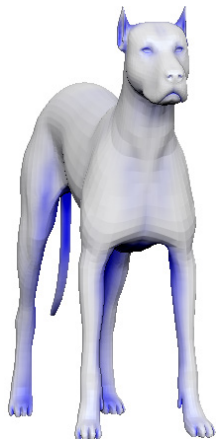
**Figure 10-18** The front area of the model painted blue



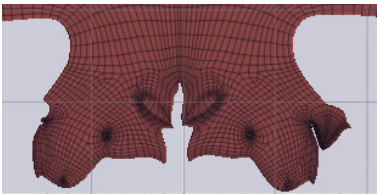
**Figure 10-19** A seam created in the painted area



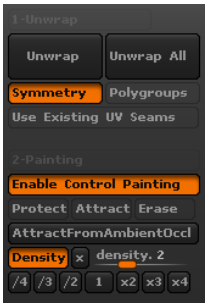
**Figure 10-20** A painted area erased using the **Erase** button



*Figure 10-21 A attraction area painted automatically*



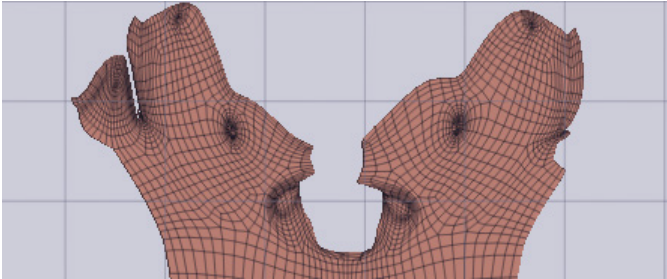
*Figure 10-22 The flattened image of the model*



*Figure 10-23 The Density button chosen*



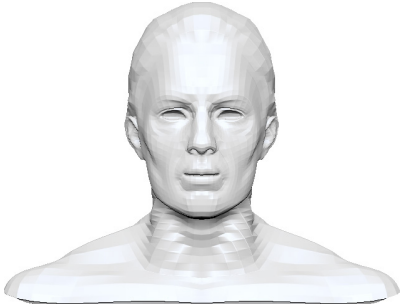
*Figure 10-24 The face of the model painted*



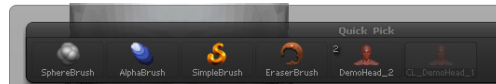
*Figure 10-25 The size of the UVs increased in the painted area*

This function requires that you be at the lowest subdivision level. Please go to level 1 and try again.

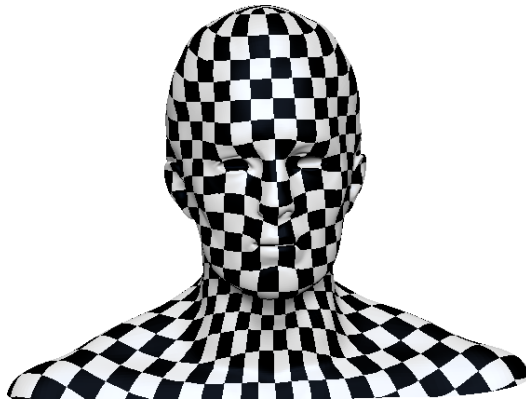
**Figure 10-26** The message box displayed on choosing the **Unwrap** button



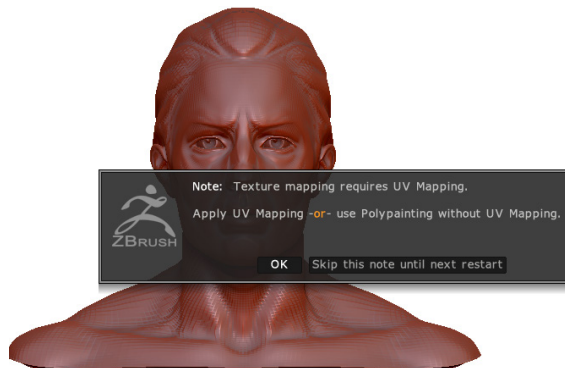
**Figure 10-27** The cloned model at its lowest subdivision level



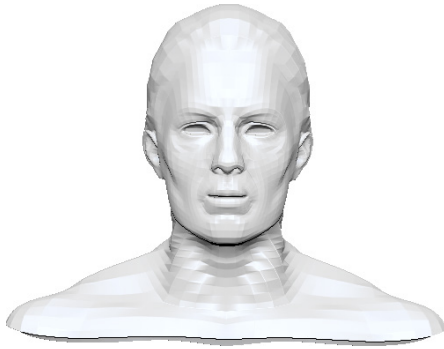
**Figure 10-28** The cloned model displayed in the flyout



**Figure 10-29** The unwrapped model of the head



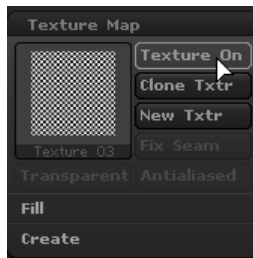
**Figure 10-30** The message box displayed on choosing the texture image



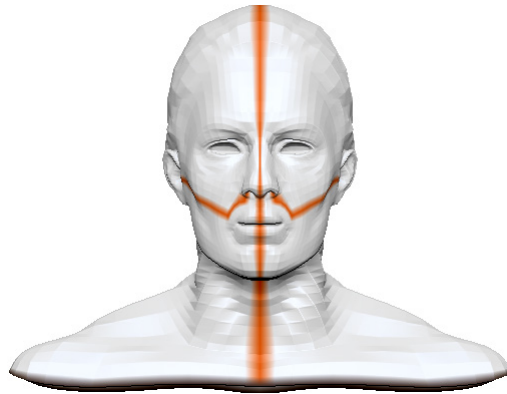
**Figure 10-31** The cloned model displayed in the canvas



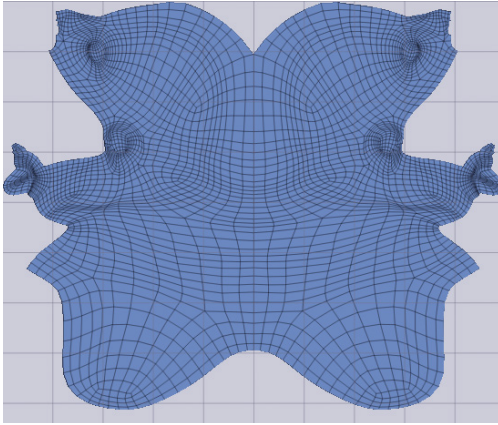
**Figure 10-32** The texture image applied to the model



**Figure 10-33** The **Texture On** button chosen



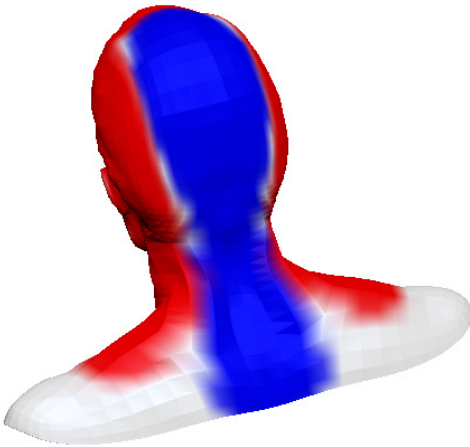
**Figure 10-34** The seams displayed on the model



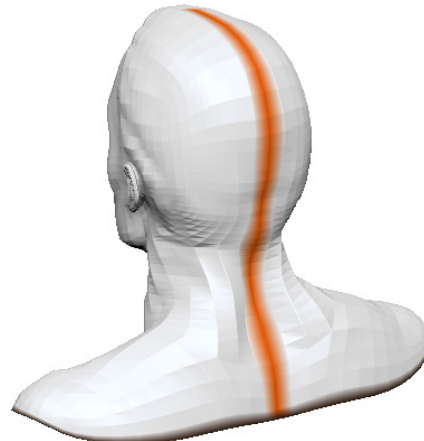
**Figure 10-35** The flattened image of the model



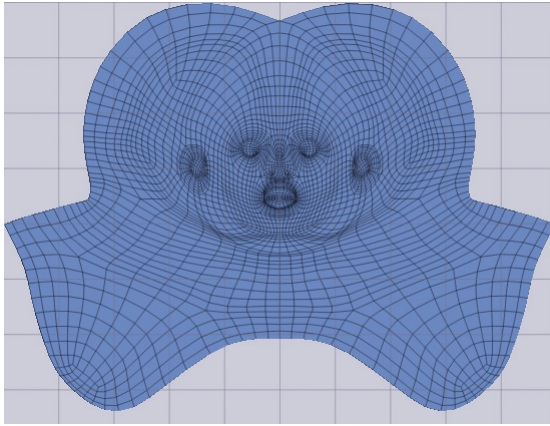
**Figure 10-36** The front side of the model painted using the **Protect** button



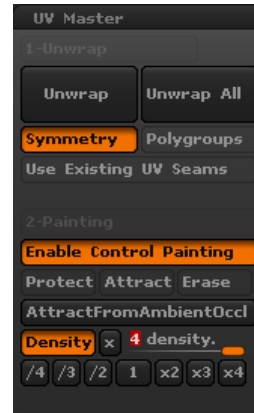
**Figure 10-37** The back side of the model painted using the **Attract** button



**Figure 10-38** The seam displayed after choosing the **Unwrap** button



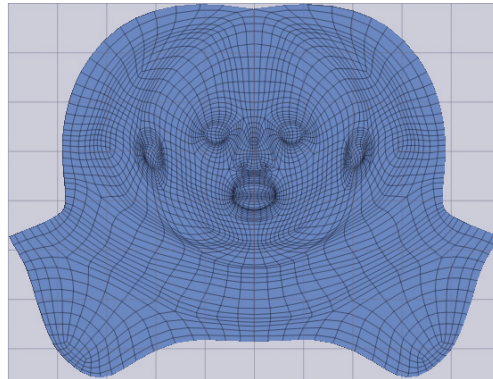
**Figure 10-39** The flattened image of the model displayed



**Figure 10-40** The value of the *density* slider set to 4

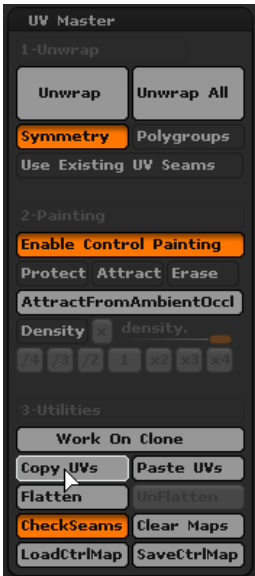


**Figure 10-41** The model with face area painted

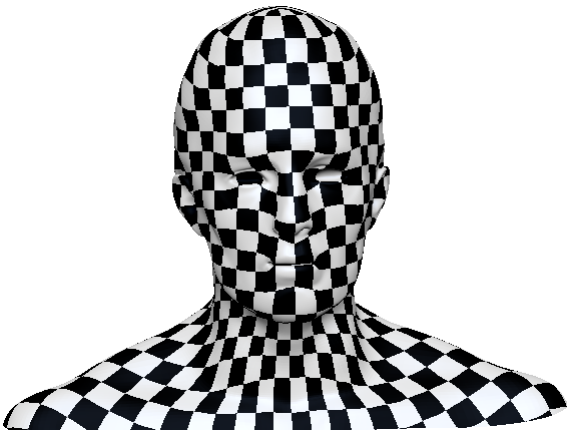


**Figure 10-42** The flattened image of the unwrapped model

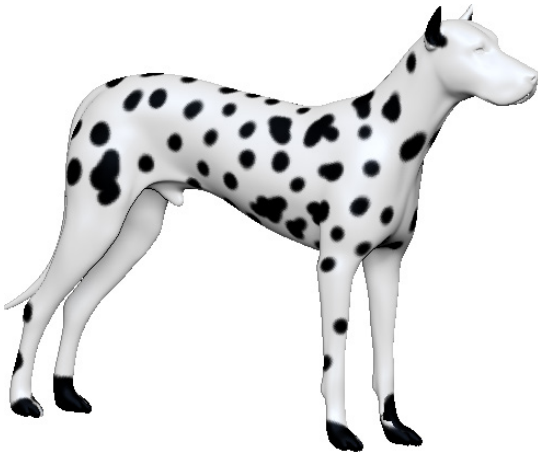




*Figure 10-43 The Copy UVs button chosen*



*Figure 10-44 The UVs pasted on the original model*



*Figure 10-45 Texture map applied to the model*

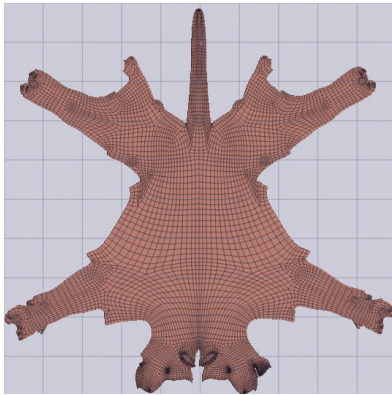




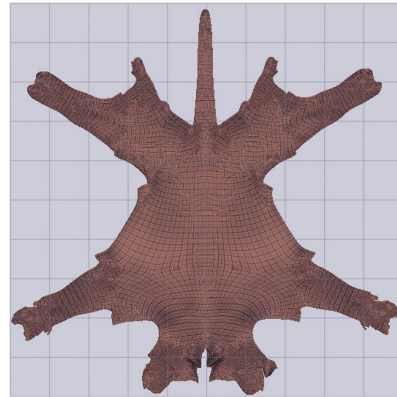
**Figure 10-46** The *Dog.ZTL* model displayed in the canvas



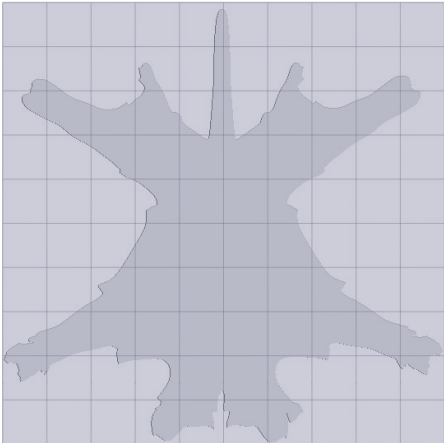
**Figure 10-47** The seams displayed on the model



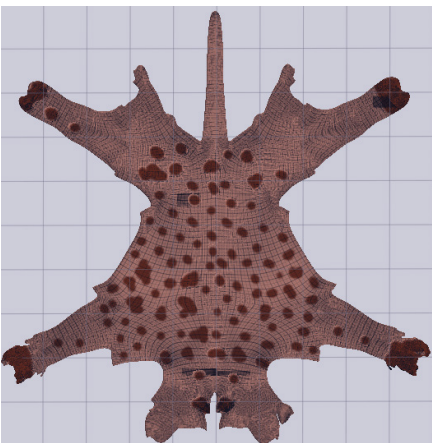
**Figure 10-48** The flattened image of the model



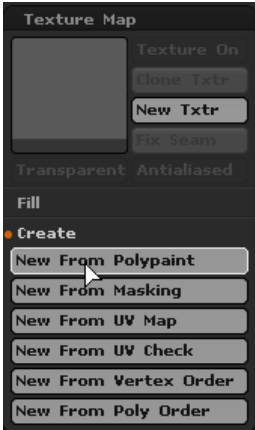
**Figure 10-49** The flattened image after pressing *CTRL+D* thrice



*Figure 10-50 The SkinShade 4 material applied to the image*



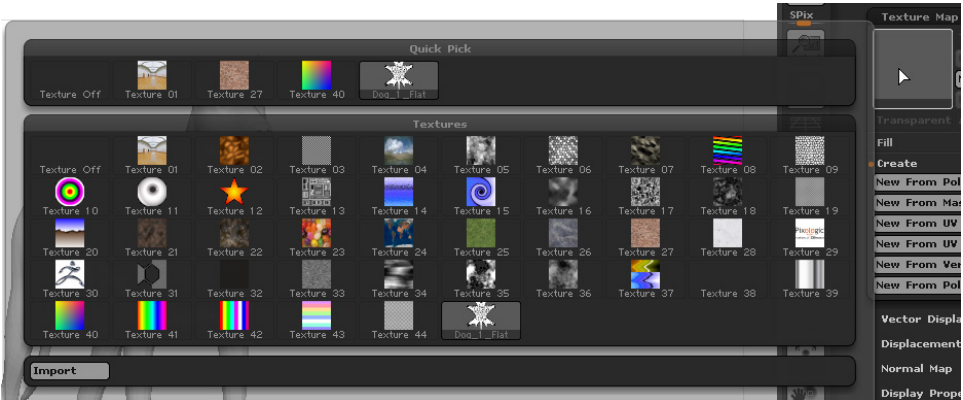
*Figure 10-51 A pattern created on the surface of the image*



*Figure 10-52 The New From Polypaint button chosen*



*Figure 10-53 The Clone Txtr button chosen*



*Figure 10-54 The texture image chosen from the flyout*



*Figure 10-55 The final output*

# ***Chapter 11***

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## ***Lighting***

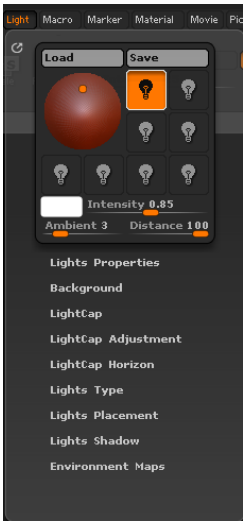


Figure 11-1 The Light palette

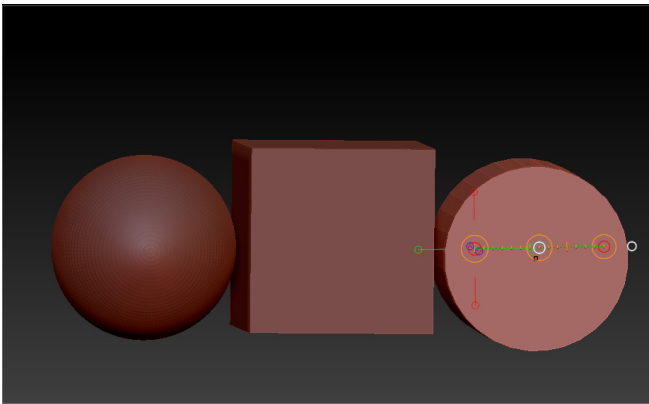


Figure 11-2 Different objects created in the canvas

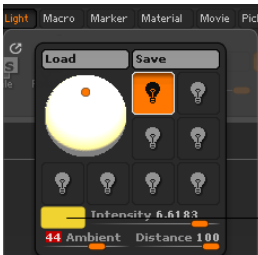


Figure 11-3 Different settings in the Light palette

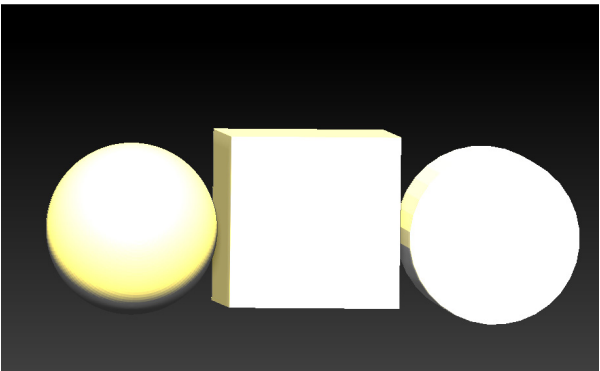
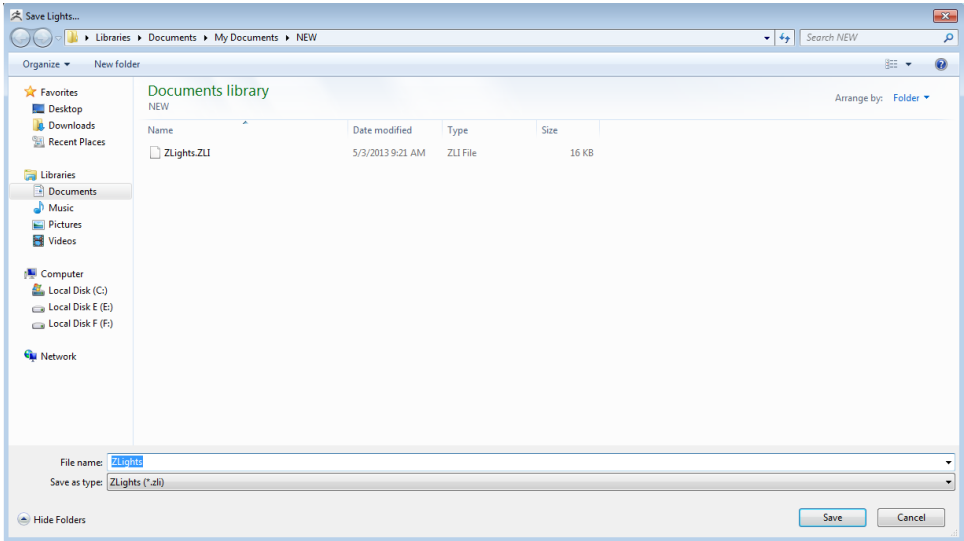


Figure 11-4 Light settings applied to the scene



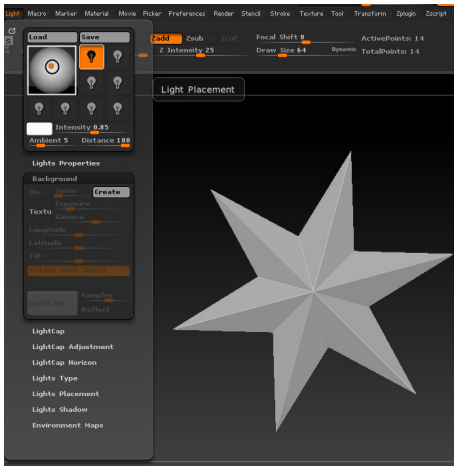
*Figure 11-5 The Save Lights dialog box*



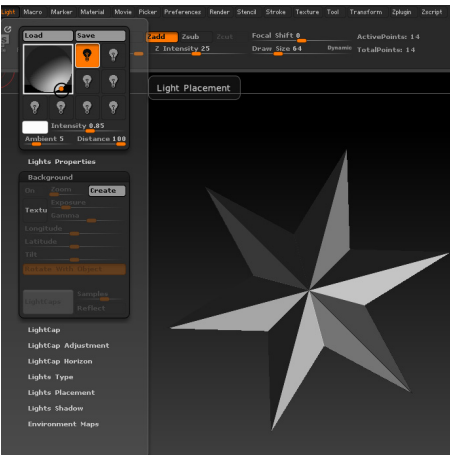
*Figure 11-6 The BasicMaterial material applied to the object*



*Figure 11-7 The light settings applied in the new scene*



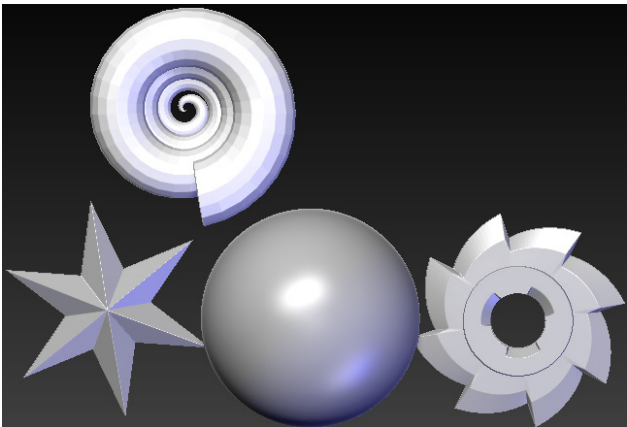
*Figure 11-8* The position of light in the **Light Placement** window



*Figure 11-9* The position of light changed in the **Light Placement** window



*Figure 11-10* The light switches in the **Light** palette



*Figure 11-11* The scene illuminated by switching on all the lights



*Figure 11-12* The scene with the value of **Intensity** slider set to 0



Figure 11-13 The scene with the value of *Intensity* slider set to 10

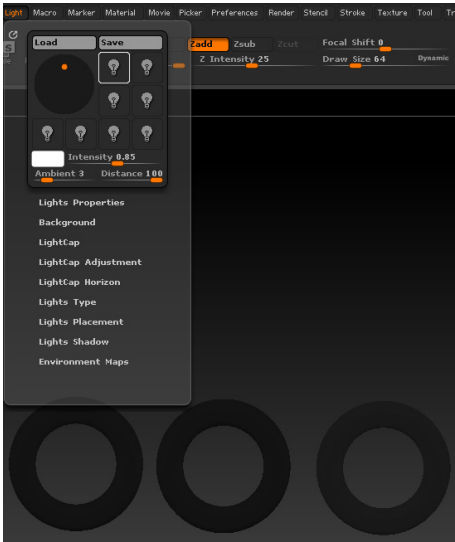


Figure 11-14 All the lights turned off



Figure 11-15 The value of the *Ambient* slider set to 100





Figure 11-16 The graph curve

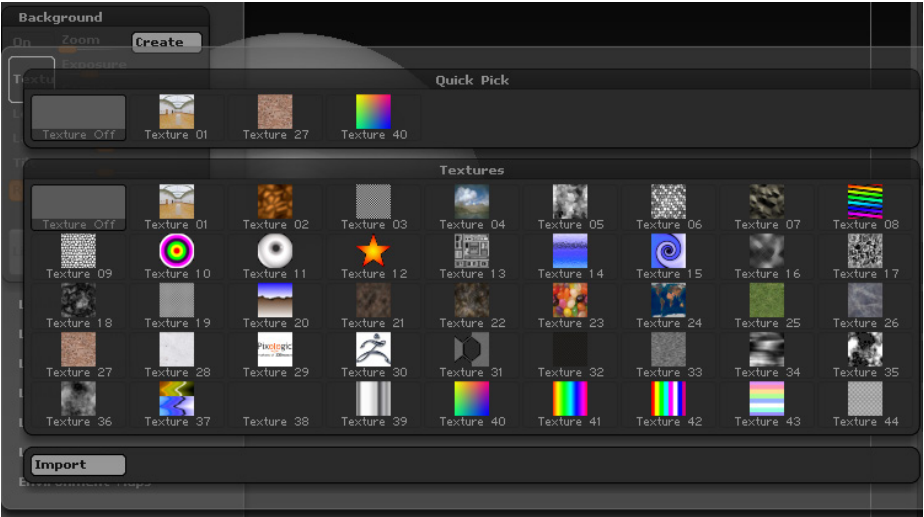
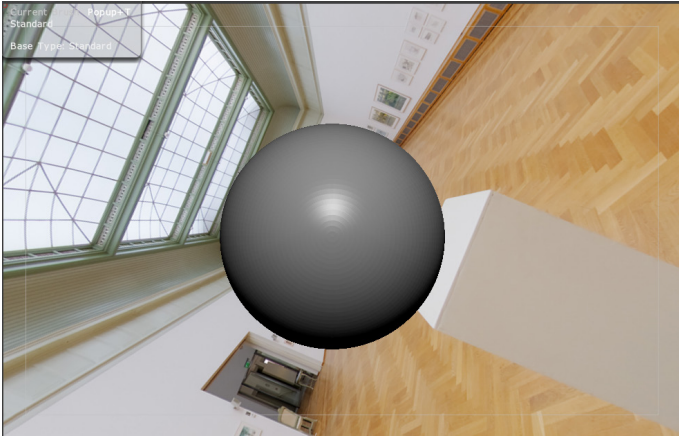


Figure 11-17 The flyout displayed on choosing the *Environment Texture* button



*Figure 11-18 The chosen texture image displayed in the background*



*Figure 11-19 The background image zoomed in*



*Figure 11-20 The lighting in the sphere changed according to the **Texture 01** image*

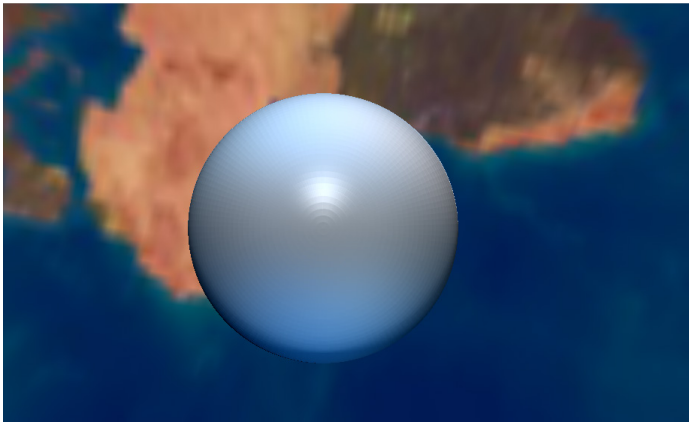


Figure 11-21 The lighting in the sphere changed according to the **Texture 24** image



Figure 11-22 The object when the value of the **Samples** slider is set to 0

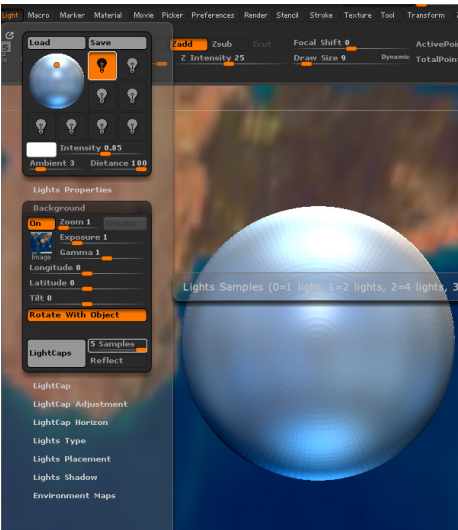


Figure 11-23 The object when the value of the **Samples** slider is set to 5

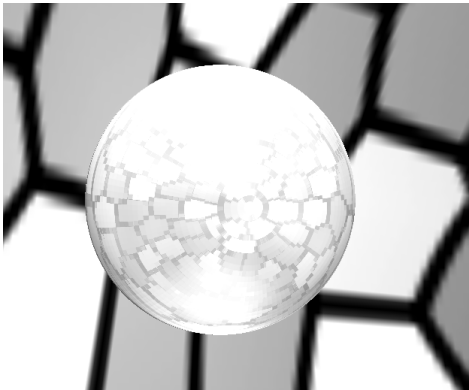


Figure 11-24 The texture reflected in the sphere



Figure 11-25 The *LightCap* subpalette



Figure 11-26 The light added in the *LightCap Preview* window

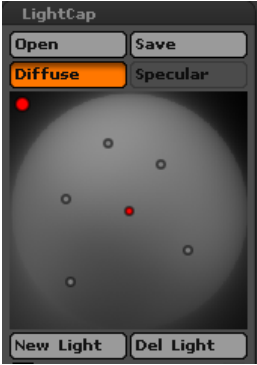
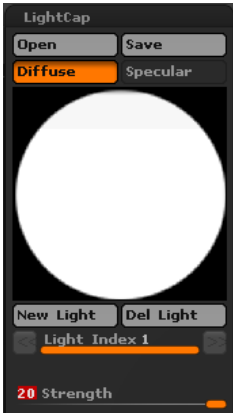


Figure 11-27 More lights added and moved in the window



*Figure 11-28 The Strength slider set to 0.2611*



*Figure 11-29 The Strength slider set to 20*



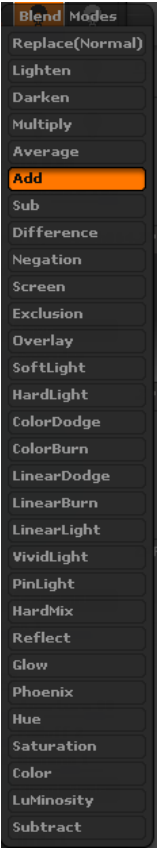
*Figure 11-30 The Aperture slider set to 10*



*Figure 11-31 The Aperture slider set to 120*



*Figure 11-32* The color of the light changed to red



*Figure 11-33* The flyout displayed on choosing the **Blend Mode** button

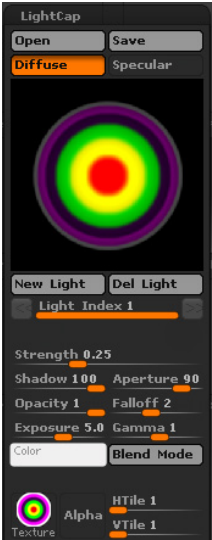


Figure 11-34 The texture image projected on the light



Figure 11-35 The shape of the light changed

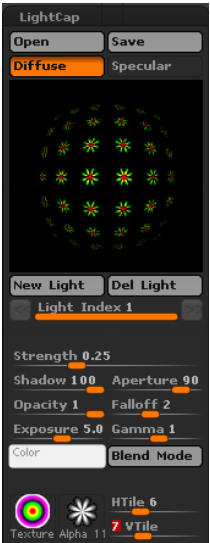


Figure 11-36 The tiling displayed in the *LightCap Preview* window

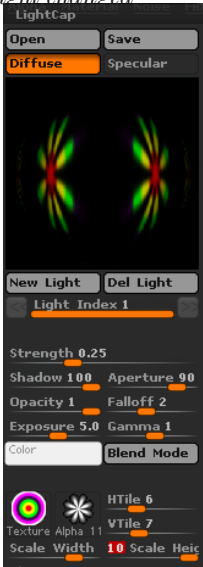
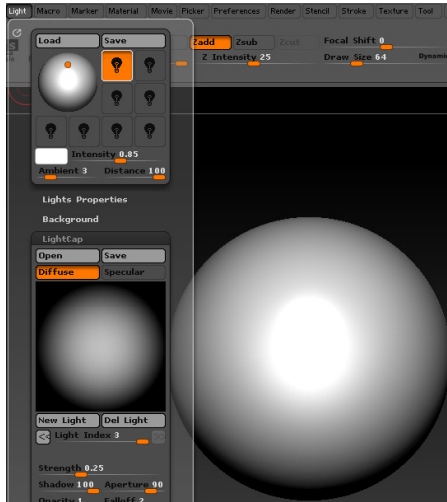
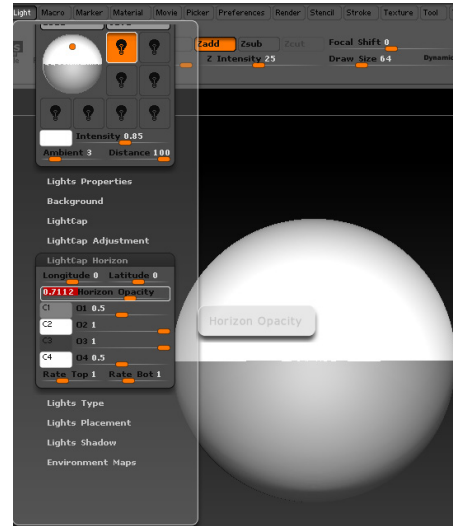


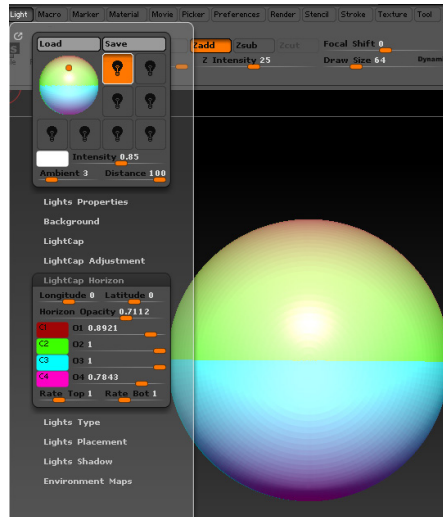
Figure 11-37 Displaying the scaled texture in the *LightCap Preview* window



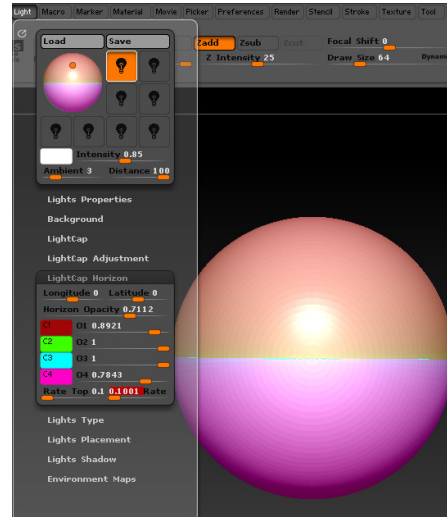
**Figure 11-38** The light capture applied to the scene



**Figure 11-39** The opacity of the horizon line increased



**Figure 11-40** Four different colors applied to the light capture



**Figure 11-41** The offset of the top and bottom colors increased





Figure 11-42 The *Lights Placement* subpalette

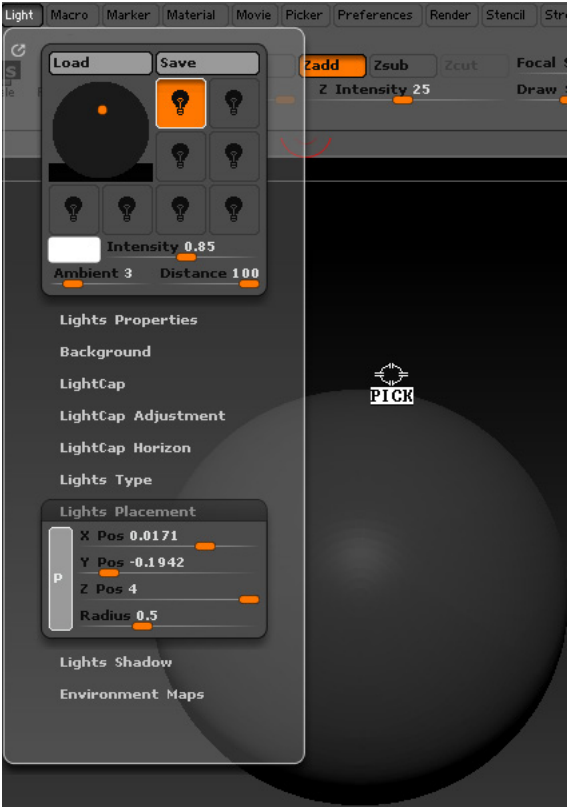


Figure 11-43 The values of the *X Pos*, *Y Pos*, and *Z Pos* sliders updated



*Figure 11-44 The output after applying lights*

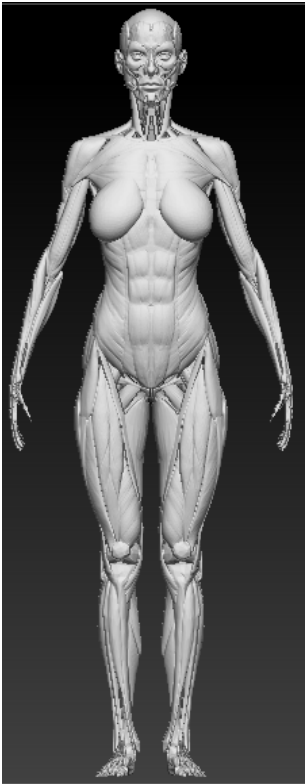


Figure 11-45 The **FastShader** material applied to the model



Figure 11-46 The **Light** palette



Figure 11-47 The key light positioned in the **Light Placement** window

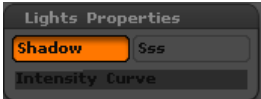
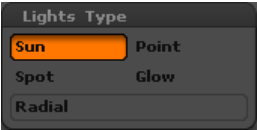


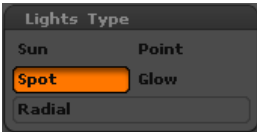
Figure 11-48 The **Shadow** button chosen



*Figure 11-49* The **Sun** button chosen



*Figure 11-50* The fill light positioned in the **Light Placement** window with its color changed



*Figure 11-51* The **Spot** button chosen



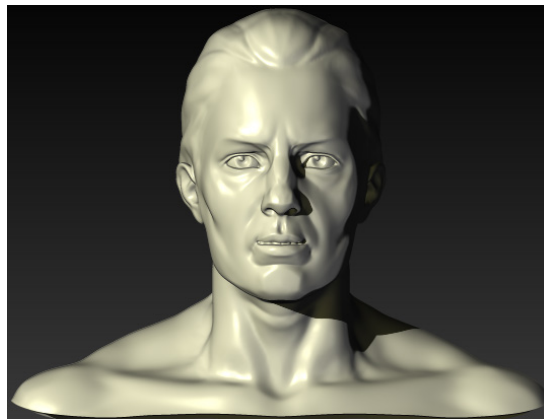
*Figure 11-52* The back light positioned in the **Light Placement** window



*Figure 11-53* The **Create** button chosen in the **Background** subpalette



*Figure 11-54* The model rendered using the **BPR** renderer

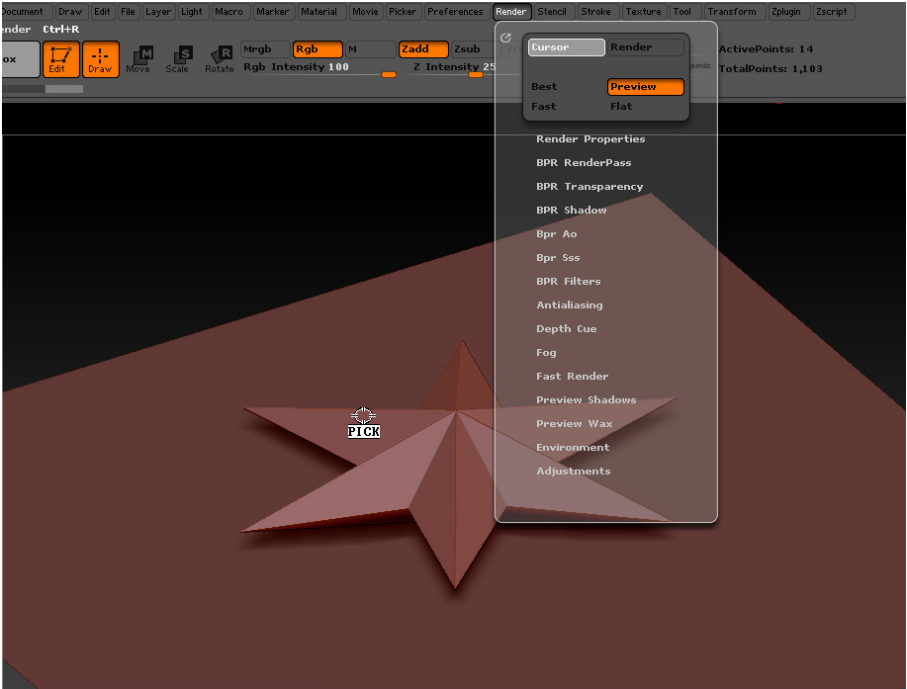


*Figure 11-55* The final output

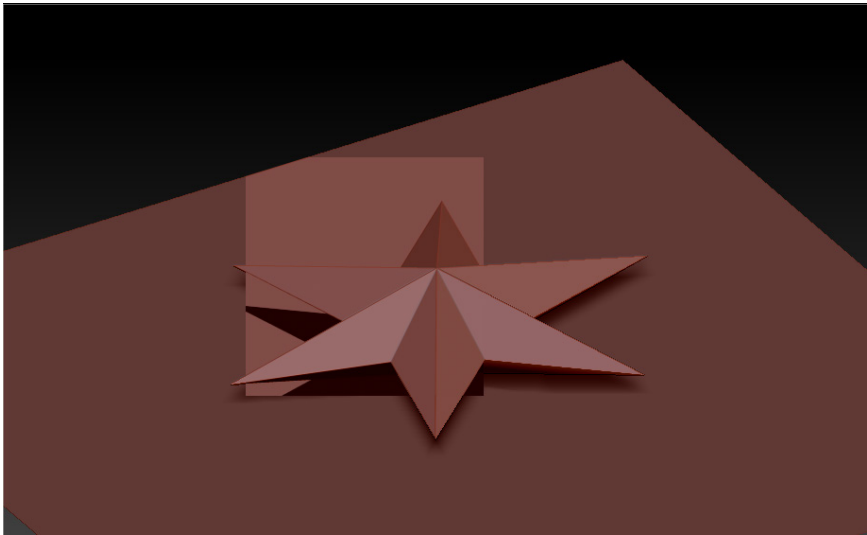
# ***Chapter 12***

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## ***Rendering***



*Figure 12-1 The area to be rendered selected using the **Cursor** button*



*Figure 12-2 The selected area of the scene rendered*



**Figure 12-3** *The plane placed below the model*



**Figure 12-4** *The scene rendered using the **Best** button*



**Figure 12-5** *The scene rendered using the **Fast** button*



**Figure 12-6** *The scene rendered using the **Flat** button*

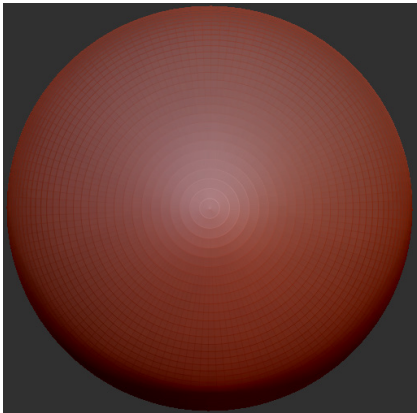




*Figure 12-7 The cartoon effect applied to a model*



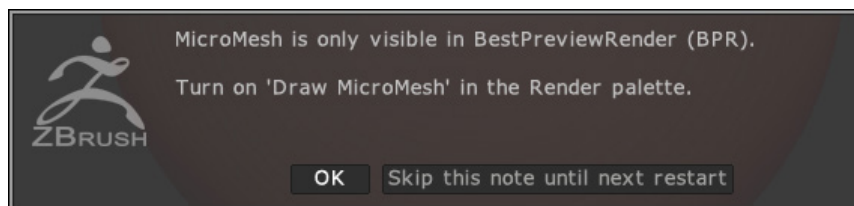
*Figure 12-8 The BPR Smooth Normals Render Mode button chosen*



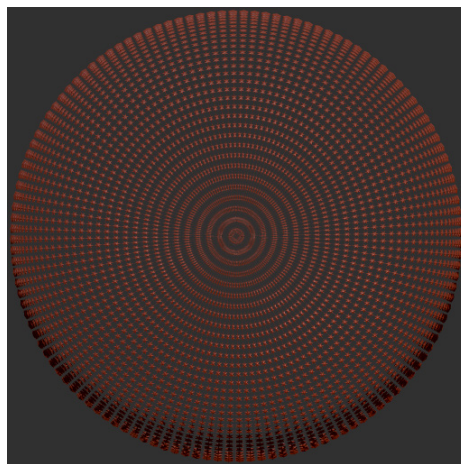
*Figure 12-9 A sphere created in the canvas*



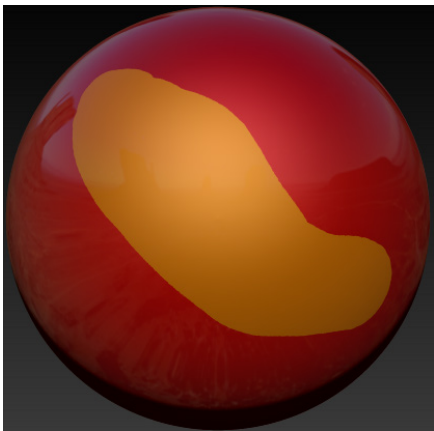
*Figure 12-10 A flyout displayed on choosing the **Micro Mesh** button*



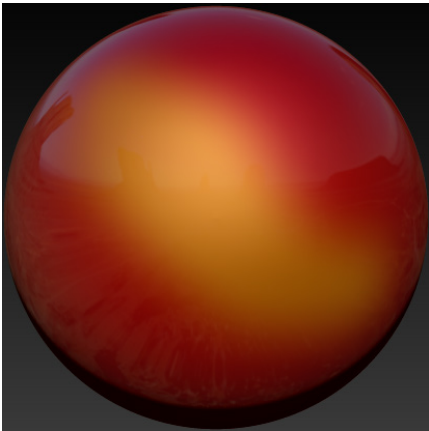
*Figure 12-11 The message box displayed on choosing the primitive*



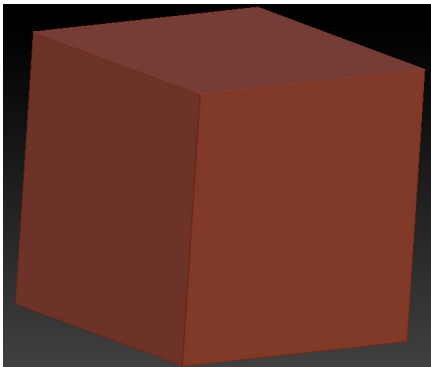
*Figure 12-12 The polygons of the sphere replaced by stars on rendering*



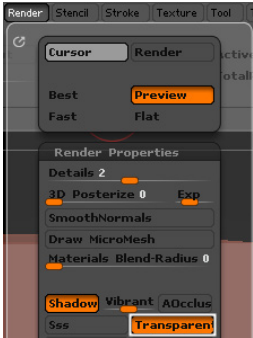
*Figure 12-13* Rendered sphere with the value of the **Materials Blend-Radius** slider set to **0**



*Figure 12-14* Rendered sphere with the value of the **Materials Blend-Radius** slider set to **50**



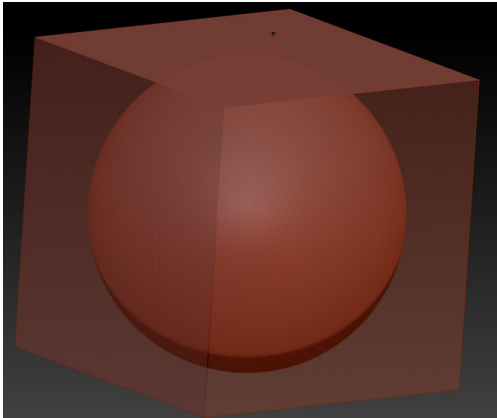
*Figure 12-15* The rendered scene in the canvas



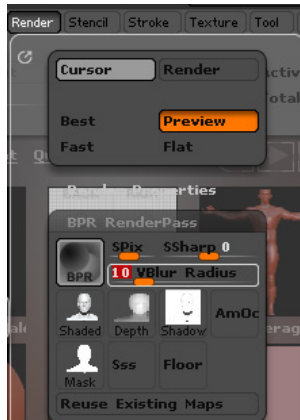
*Figure 12-16* The **Transparent** button chosen



*Figure 12-17* The **Display Properties** subpalette



*Figure 12-18* The transparency in the cube displayed on rendering



**Figure 12-19** The value of the *VBlur Radius* slider set to 10



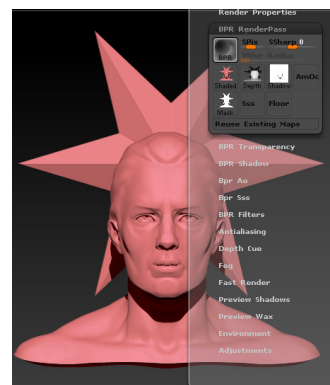
**Figure 12-20** The blur effect applied to the model



**Figure 12-21** The *BPR RenderPass* subpalette



**Figure 12-22** The scene rendered using the *BPR* renderer



**Figure 12-23** The different slots in the *BPR RenderPass* subpalette filled up

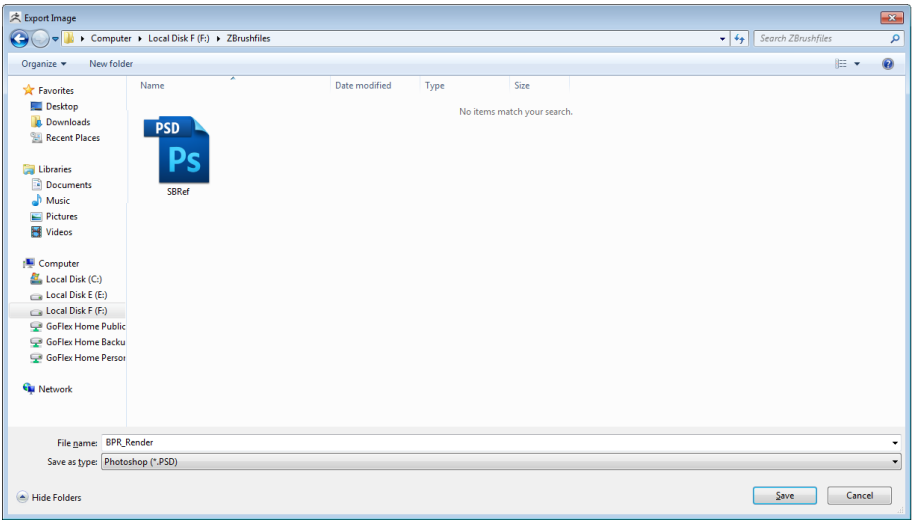


Figure 12-24 The *Export Image* dialog box



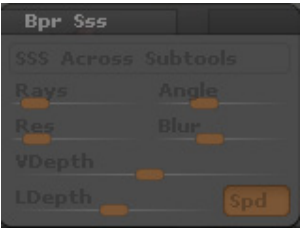
Figure 12-25 The *BPR Transparency* subpalette



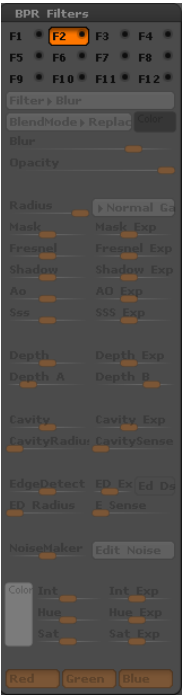
Figure 12-26 The *BPR Shadow* subpalette



Figure 12-27 The *Bpr Ao* subpalette



*Figure 12-28 The Bpr Sss subpalette*



*Figure 12-29 The BPR Filters subpalette*



*Figure 12-30 Different parameters for applying noise filter*



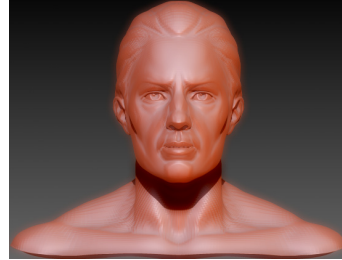
*Figure 12-31 The noise filter applied to the rendered image*



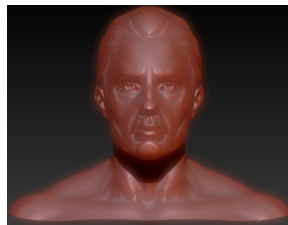
*Figure 12-32 The blur filter applied to the rendered image*



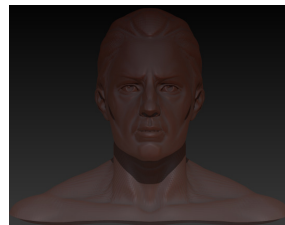
**Figure 12-33** The sharpen filter applied to the rendered image



**Figure 12-34** The orton filter applied to the rendered image



**Figure 12-35** The glow filter applied to the rendered image



**Figure 12-36** The fade filter applied to the rendered image



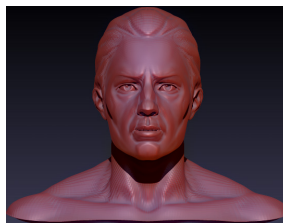
**Figure 12-37** The colorize filter applied to the rendered image



**Figure 12-38** The red filter applied to the rendered image



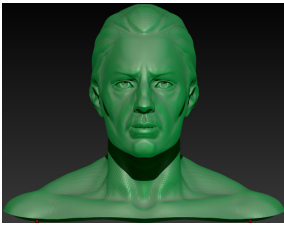
**Figure 12-39** The green filter applied to the rendered image



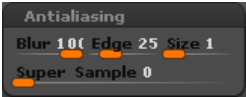
**Figure 12-40** The blue filter applied to the rendered image



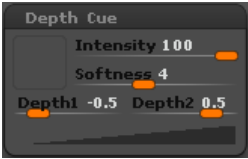
*Figure 12-41 The saturation filter applied to the rendered image*



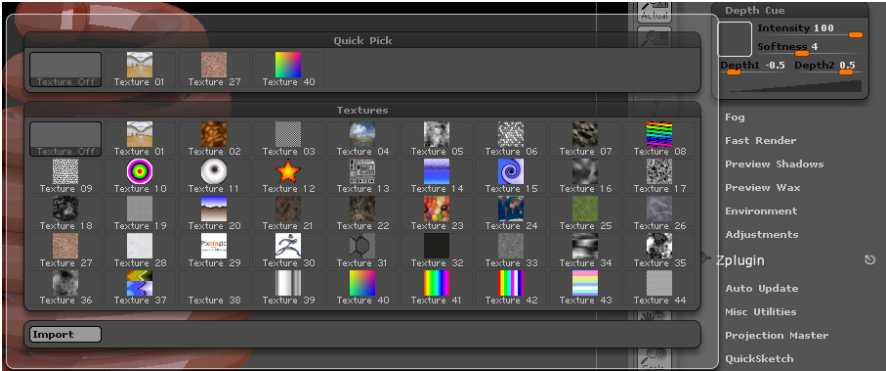
*Figure 12-42 The hue filter applied to the rendered image*



*Figure 12-43 The Antialiasing subpalette*



*Figure 12-44 The Depth Cue subpalette*



*Figure 12-45 The flyout displayed on choosing the Depth Cue Alpha button*



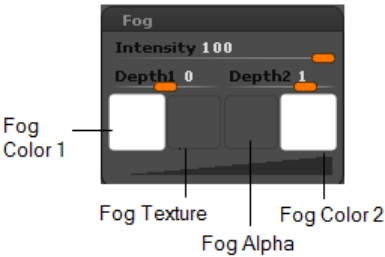


Figure 12-46 The Fog subpalette



Figure 12-47 The Preview Shadows subpalette

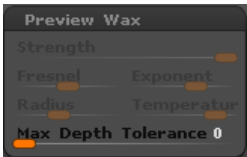


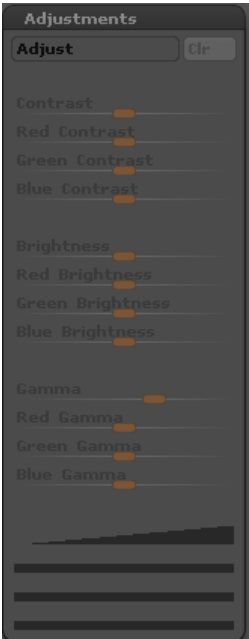
Figure 12-48 The Preview Wax subpalette



Figure 12-49 The value of the Strength slider set to 20



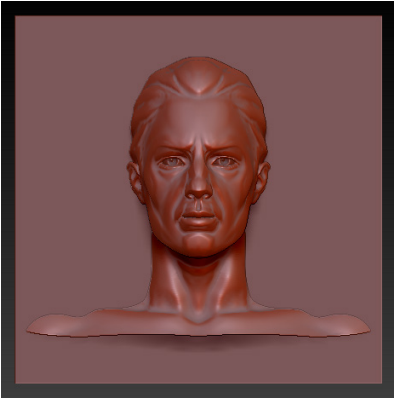
Figure 12-50 The Environment subpalette



*Figure 12-51 The Adjustments subpalette*



*Figure 12-52 The Plane3D primitive chosen from the flyout*



*Figure 12-53 The plane displayed in the canvas*

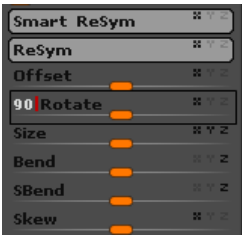


Figure 12-54 The value of the *Rotate* slider set to 90

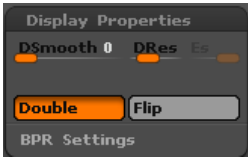


Figure 12-55 The *Double* button chosen

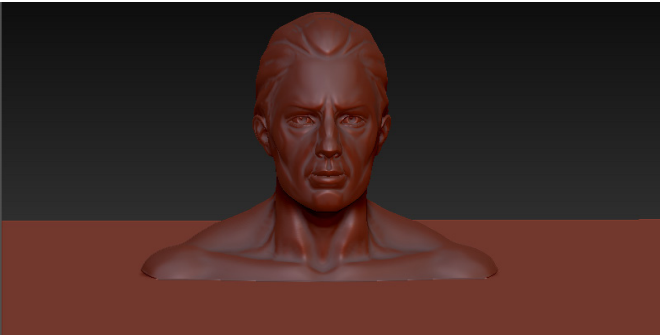


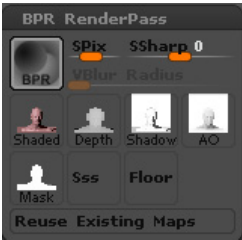
Figure 12-56 The plane placed below the model



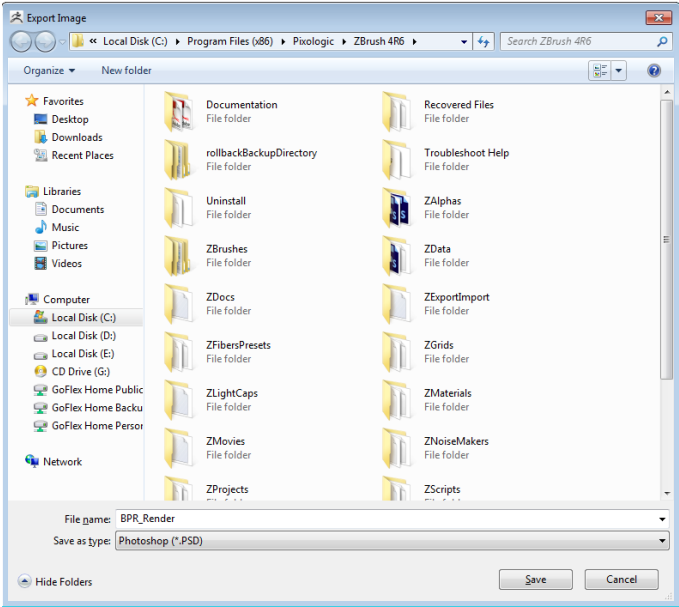
Figure 12-57 The light positioned in the *Light Placement* window



Figure 12-58 The *AOcllus* button chosen



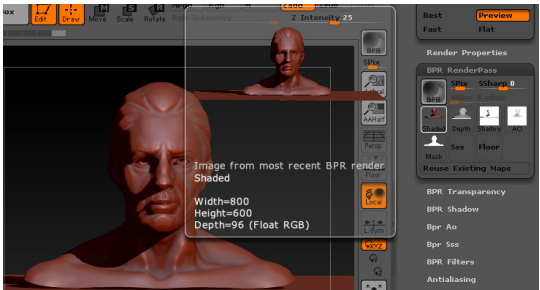
*Figure 12-59 The render passes generated*



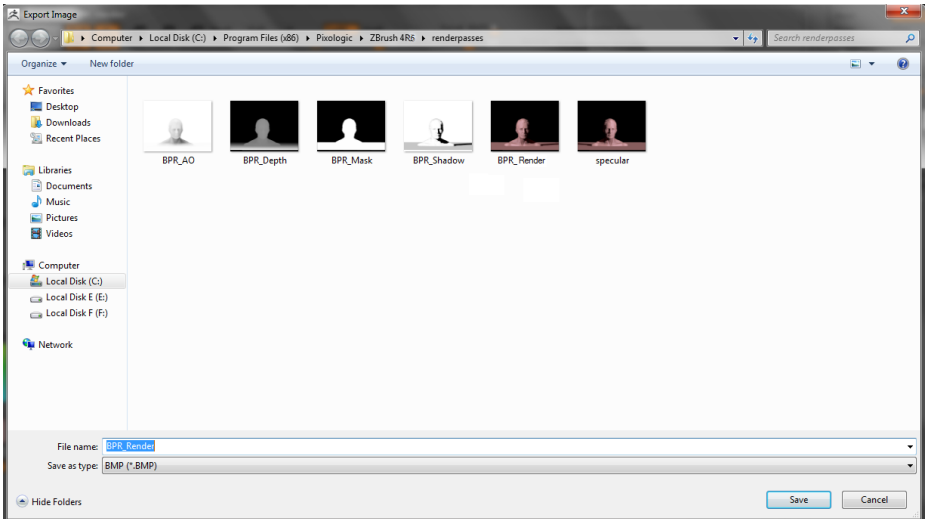
*Figure 12-60 The Export Image dialog box*



*Figure 12-61 The light positioned in the **Light Placement** window*



*Figure 12-62 The **Shaded** render pass selected*



*Figure 12-63 The render passes saved in the **.BMP** format*



*Figure 12-64 The final output*

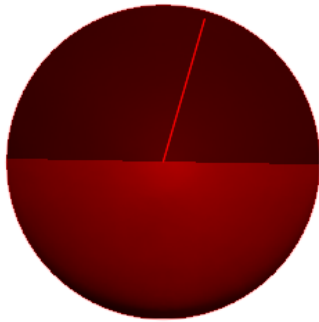
# ***Project 1***

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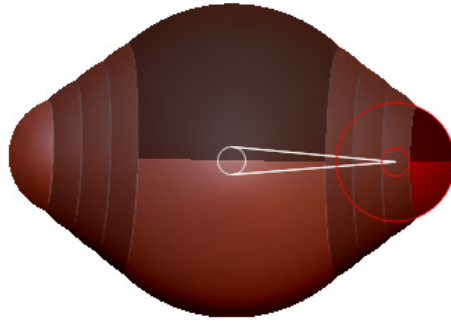
## ***Cartoon Character Modeling***



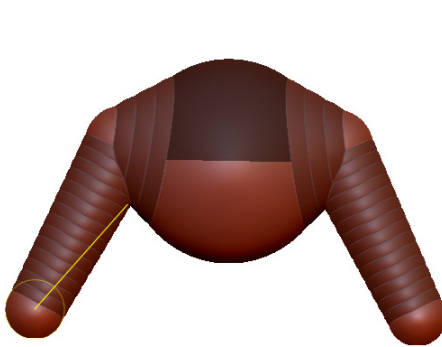
*Figure P1-1 The model of a cartoon character*



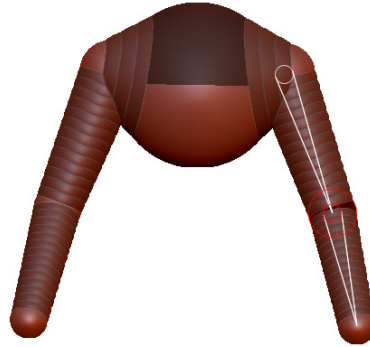
**Figure P1-2** A ZSphere created in the canvas



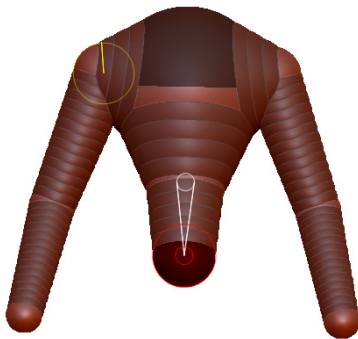
**Figure P1-3** A ZSphere created for the shoulders



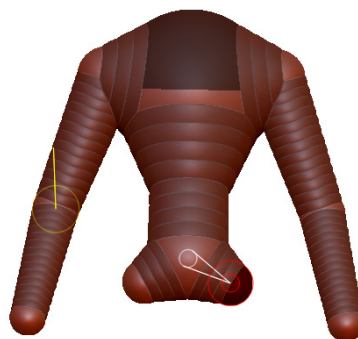
**Figure P1-4** A ZSphere created for elbow and moved downward



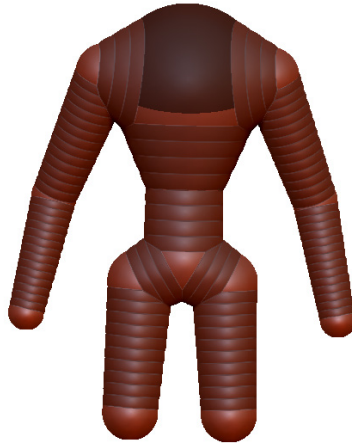
**Figure P1-5** A ZSphere created and moved outward



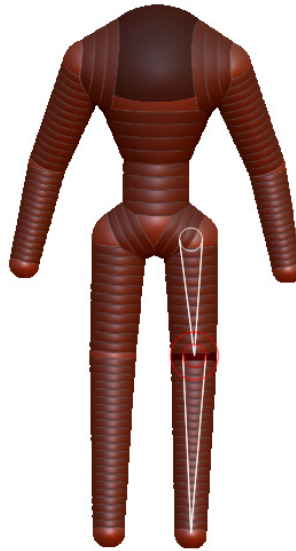
**Figure P1-6** The torso created



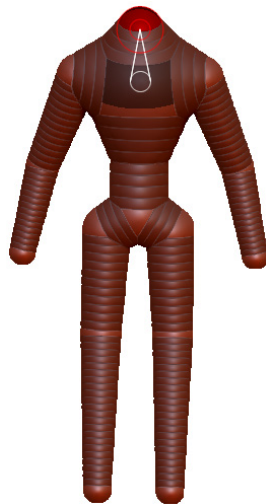
**Figure P1-7** A ZSphere created for the hips



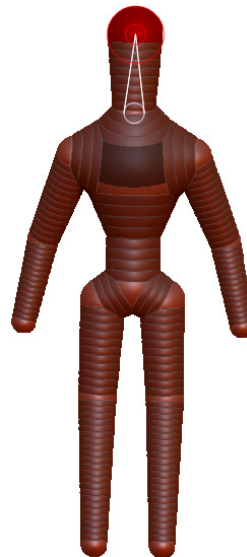
**Figure P1-8** A ZSphere created for the knees and moved downward



**Figure P1-9** A ZSphere created for the legs and moved downward

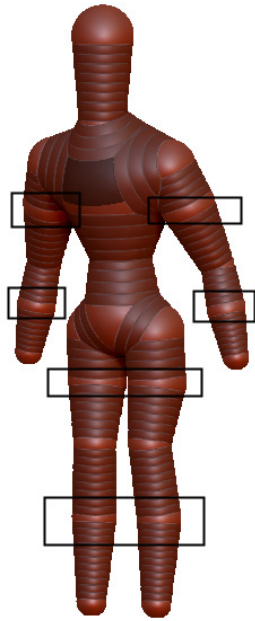


**Figure P1-10** A ZSphere created for the neck



**Figure P1-11** A ZSphere created for the head and moved outward





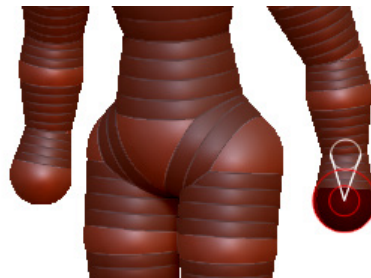
**Figure P1-12** More ZSpheres added to refine the shape



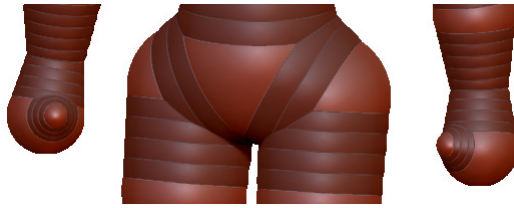
**Figure P1-13** A ZSphere created for the feet and moved outward



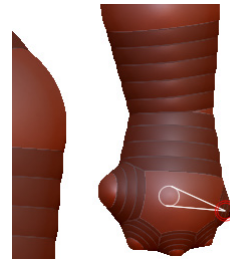
**Figure P1-14** The shape of the feet refined



**Figure P1-15** A ZSphere created for the hand



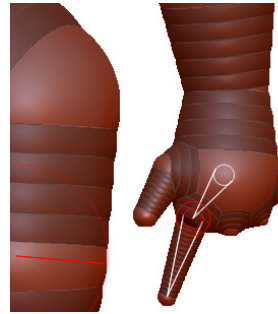
**Figure P1-16** A ZSphere created for the knuckle



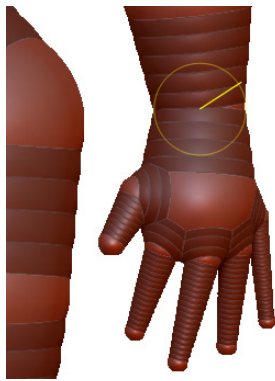
**Figure P1-17** The knuckles created



**Figure P1-18** A ZSphere created for the thumb and moved outward



**Figure P1-19** The index finger created



**Figure P1-20** *All the fingers created*



**Figure P1-21** *The adaptive skin mesh*



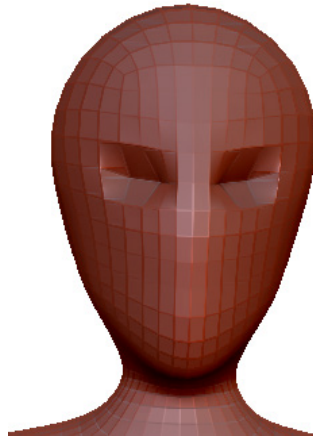
**Figure P1-22** The shape of the head created using the **Move** brush



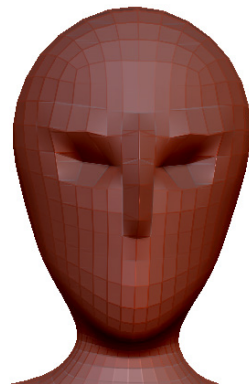
**Figure P1-23** The shape of the feet refined using the **Move** brush



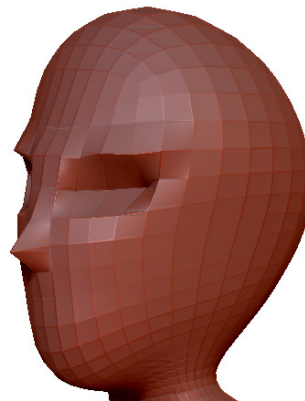
**Figure P1-24** The shape of the body refined in the side view



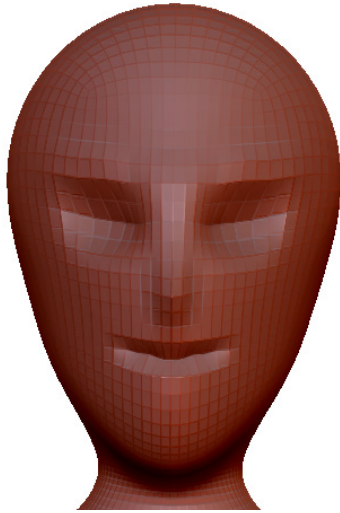
**Figure P1-25** The eye socket created using the **Standard** brush



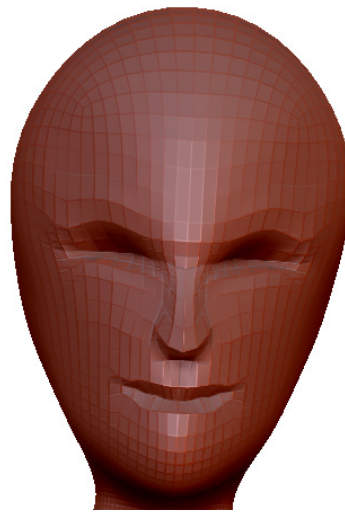
**Figure P1-26** The depth for the nose created using the **Standard** brush



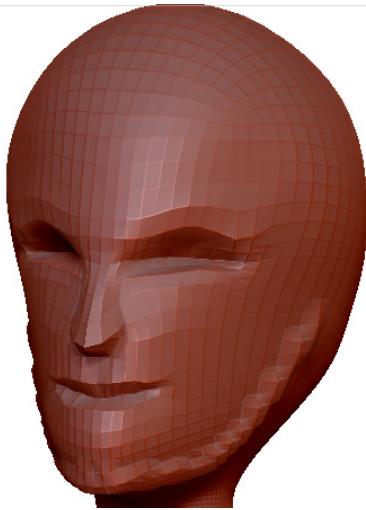
**Figure P1-27** The shape of the nose refined using the **Move** brush



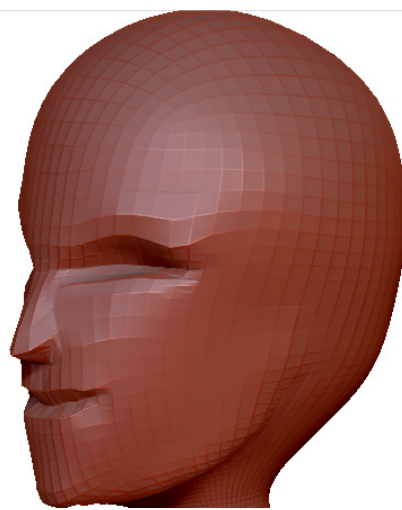
**Figure P1-28** The shape of the mouth created using the **Standard** brush



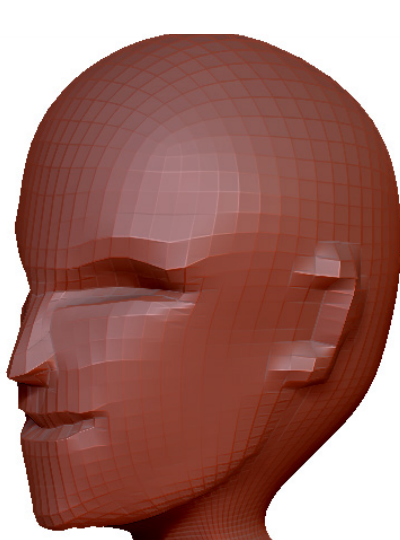
**Figure P1-29** The shape of the eyes, nose, and mouth refined using the **Move** brush



**Figure P1-30** The shape of the jaw line created using the **CalyBuildup** brush



**Figure P1-31** The shape of the jaw line smoothed using the **Smooth** brush



**Figure P1-32** The shape of the ear created using the **Standard** brush



**Figure P1-33** The shape of the eyes refined using the **Move** brush



**Figure P1-34** The shape of the lips created using the **Standard** brush and the **Pinch** brush



**Figure P1-35** The shape of the lips refined using the **Move** brush

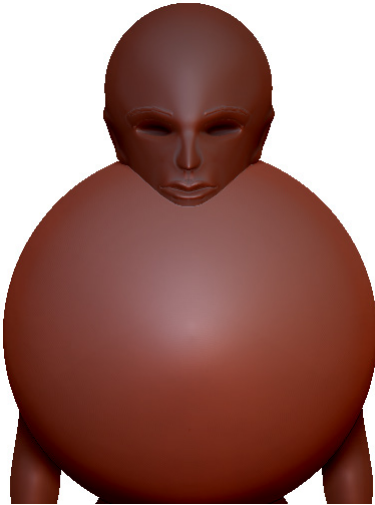




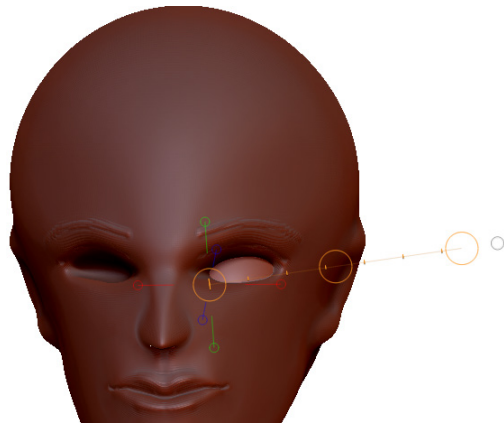
*Figure P1-36* The shape of the lips refined using the **Dam\_Standard** brush



*Figure P1-37* The eyebrows and eyelids created

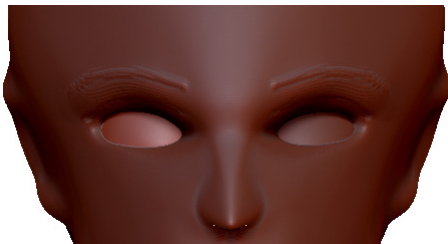


*Figure P1-38* A sphere smoothened

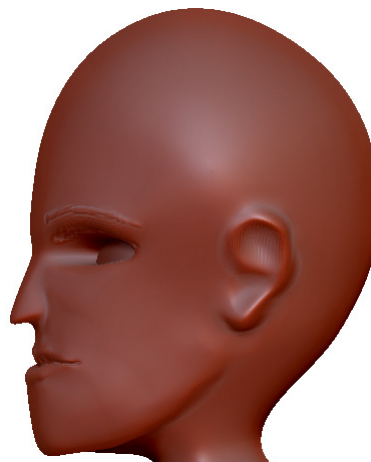


*Figure P1-39* The sphere scaled down and moved inside the eye socket





**Figure P1-40** The duplicated copy of the eye ball created and moved to the left eye socket



**Figure P1-41** The shape of the ear refined using the **Standard** and **Move** brushes



**Figure P1-42** The facial features refined in the side view using the **Move** brush



**Figure P1-43** The length of the fibers decreased



**Figure P1-44** The clothes created using the **Extract** button



**Figure P1-45** The shape of the pants refined using the **Move** brush



**Figure P1-46** The mask created for the shoes



**Figure P1-47** The shoes created using the **Extract** button



**Figure P1-48** The *MatCap Skin06* material applied to the body



**Figure P1-49** The colors applied to the clothes and the shoes



**Figure P1-50** The texture for the eyes created



**Figure P1-51** The lips painted



**Figure P1-52** *The mask created for the eyebrows*



**Figure P1-53** *The eyebrows created using the FiberMesh*



**Figure P1-54** *A pattern created on the shirt*