## Chapter 1




| Wireframe |
| :--- |
| Solid |
| Vertex Map |
| Shaded |
| Texture |
| Shaded Texture |
| Advanced OpenGL |
| Gooch Tone Shading |
| Cel Shading |
| Reflection |



| (1) |
| :--- |
| File |
| Edit |
|  |






[^0]


Set Material

| Q Radial Sweep | Shift－L |  |
| :---: | :---: | :---: |
| （3）Mirror | Shift－v |  |
| Bridge |  | 号 |
| Patch Curves |  | 年 |
| Curve Extrude |  | $\frac{3}{10}$ |
| Curve Clone |  | 亳 |
| Scatter Clone |  | 边 |
| Clone |  | ¢ |
| Array |  |  |
| Radial Array |  | \％ |
|  |  | $\subsetneq$ |
| Paste Tool |  | － |
| Duplicate |  |  |
| Duplicate Hierarchy |  |  |

## Clone



| $\sqrt{7}$ slice | Shift－c | 詈， |
| :---: | :---: | :---: |
| $\square$ Curve Slice |  | \％ 0 0 0 0 |
| T］Edge Slice | C |  |
| $\int$ Pen Slice |  | － |
| Loop Slice | Alt－C | $\frac{3}{0}$ |
| fif Axis Slice |  | $\stackrel{\text { \％}}{\substack{\text { \％} \\ \hline \\ \hline}}$ |
| 77．Julienne |  | $\stackrel{\substack{0}}{\frac{1}{0}}$ |
| Tack Tool |  | 历 |
| Bevel | 8 | 告 |
| 5 Extrude | Shift－X | － |
| 7 Commands |  | c |
| Subdivide | $\checkmark$ | $<$ |
| Boolean |  |  |
| Solid Drill |  |  |
| Axis Drill |  |  |
| Mesh Cleanup |  |  |

［J］Edge Slice







Chapter 2

| c． 1 | em |  | Shading | Groups | Images | ＋$k^{\text {R }}$ 年 | ＊ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Filte | Ite |  |  | －）Add I |  | －） |  |
| （3） | 88 | ふ | Name |  |  |  |  |
| （3） |  |  | Y 绽 | ntitled |  |  |  |
| © | ； |  | ． 8 | Mesh |  |  |  |
| $\begin{aligned} & 5 \\ & 9 \end{aligned}$ |  |  |  | Camera Directiona |  |  |  |
|  | 0 |  |  |  |  |  |  |

Untitled
$=\quad$ Mesh
$=\quad$ Directional Light


2r Layout System Help


| $\checkmark$ | (none) | Snappii |
| :---: | :---: | :---: |
|  | Linear |  |
|  | Cylinder | r |
|  | Radial |  |
|  | Airbrush |  |
|  | Screen |  |
|  | Element |  |
|  | Noise |  |
|  | Vertex Map |  |
|  | Path |  |
|  | Lasso |  |
|  | Image |  |
|  | Selection |  |
|  | Soft Selection |  |
|  | Invert |  |
|  | Add , |  |




|  |  |
| :--- | :--- | :--- |
|  | SDS Subdivide <br> Faceted |



Bevel

$\square$ Extrude



5 slice

(1) Thicken




Flex

(ty Sculpt


| 18 Radial Sweep | Shift- | (0) |
| :---: | :---: | :---: |
| 60 Mirror | Shift-v | 8 |
| Bridge |  | 8 |
| Patch Curves |  | - |
| Q Curve Extrude |  | \% |
|  |  |  |
|  |  | ¢ |
| Clone |  |  |
| Array |  |  |
|  |  |  |
| Mesh Paint |  | $\subsetneq$ |
| Paste Tool |  |  |
| Duplicate |  |  |
| $\sqrt[3]{5}$ Duplicate Hierarchy |  |  |


(7) Clone

(87) Array


| 9 ste |
| :---: |
| Q arvestice |
| (T) Eides stre |
| (1) Pensite |
| ( ${ }^{\text {coos sice }}$ |
| fifi nes sile |
| (7) Meme |
| (5) Tadrod |
| (1) Eevel |
| (1) Extude |
| comens |
|  |
|  |
| Mesticanve |

Curve Slice



Boolean


Axis Drill


Mesh Cleanup

## Mesh Cleanup

$\checkmark$ Remove Floating Vertices
$\checkmark$ Remove One Point Polygons
$\checkmark$ Remove Two Points Polygons
$\checkmark$ Fix Duplicate Points in Polygon
$\checkmark$ Remove Colinear Vertices
$\checkmark$ Fix Face Normal Vectors
$\checkmark$ Merge Vertices
$\checkmark$ Merge Disco Values
$\checkmark$ Unify Polygons
$\checkmark$ Force Unify


## Set Vertex Position

| Axis $X$ $Y$ <br> Value  <br> 0 m Z <br>  Work Plane <br> World Space  |
| :--- | :--- | :--- |

## Merge Vertices

Range Automatic
Keep 1-Vertex Polygons
Distance 1 mm
Test Morph Map Positions
Merge Discontinuous UV Values
Extrude

4. Bridge



Chapter 3


## Polygon Set Material

| Name | Default |  |  | $\nabla$ |
| :---: | :---: | :---: | :---: | :---: |
| Color | 1.0 | 1.0 | 1.0 |  |
| Diffuse | 80.0\% |  |  | $4 \mid 1$ |
| Specular | 20.0 \% |  |  | KIV |
|  | $\checkmark$ Smoothir |  |  |  |
|  | Make De |  |  |  |
|  | Add to Li |  |  |  |


| e Item ... Shading Groups Images $+k^{\text {2 }}$ 5. |  |  |
| :---: | :---: | :---: |
| View (Shader Tree v) Assign Material |  |  |
| Filter | (none) v) (Add |  |
| 5 | Name | Effect |
| 9 5 9 5 | Render <br> Alpha Output <br> Final Color Output <br> Base Shader <br> Base Material <br> Library <br> Lights <br> Environments <br> 䛨 FX | Alpha <br> Final Color <br> Full Shading <br> (all) |



Material





| (5) Base Shader | Full Shading |  |
| :--- | :--- | :--- |
| 9 | Base Material | (all) |








UV Projection Tool
Project from View
Unwrap Tool




| 3 | Flame |  | Effect |  |
| :---: | :---: | :---: | :---: | :---: |
| 8 8 3 3 | $\qquad$ |  | Alpho <br> Final Color <br> ful Shading <br> (al) |  |
| 1 8 8 | (1) + \& mater textire () Material Base Material Lbrary - Enhts - Enironments |  | Diffuse Ccior (ai) (al) |  |
|  | Yoperter Chantes Desly | Dets + |  |  |
| - Transfiorm |  |  |  |  |
|  | $\begin{array}{r} \text { Postion } X \\ Y \\ 2 \end{array}$ | $\begin{aligned} & 0 \mathrm{~m} \\ & 0 \mathrm{~m} \\ & 0 \mathrm{~m} \end{aligned}$ |  |  |
|  | Rotaton $x$ | $0.0{ }^{\circ}$ |  | (3) |
|  | $\begin{aligned} & Y \\ & Z \end{aligned}$ | $\begin{array}{r} 0.0^{\circ} \\ 0.0^{\circ} \end{array}$ |  |  |
|  | Order | 0 PXY |  | v है |
|  | Srex | 1 m |  | 0 |
|  |  | $\begin{aligned} & 1 \mathrm{~m} \\ & 1 \mathrm{~m} \end{aligned}$ |  |  |
|  |  | Auto Ske |  | 4 |
|  |  | Word Transforms Wortd Coordnates |  | ¢ |
| Projection |  |  |  |  |
|  | Projection Type | O UVMap |  | v 3 |
|  | Propetion Comero | (xats |  |  |
|  | UVMap | Texture |  | * ${ }^{7}$ |
|  | Projection Axs | X Y | 2 |  |
|  | Texture Officet Anpliude | 1.0 |  | 0 |
|  | Herisontal Wrap Vertcal Wrop | $\begin{aligned} & 1.0 \\ & 1.0 \end{aligned}$ |  |  |
|  | Horimental Repeat | Reprat |  | $\cdots$ |
|  | Vertcal Repeat | Reprat |  | $\checkmark$ |
|  | UTie offset | O 0.0 |  | 0 |
|  | VTile Offist ( | O 0.0 |  | 0 |
|  | UVRotaton | $0.0{ }^{\circ}$ |  | 9 |




## Effect

Alpha
Final Color
Full Shading
(all)
Bump
(all)
(all)




Chapter 4





| Fiter Ittems |  |  |  | V | Add Item | - | F |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 9 | $\dagger$ | $B$ | Name |  |  |  |  |
| 9 9 5 |  |  | $\begin{aligned} & \text { F. Untitled* } \\ & \text {. Co Camera } \end{aligned}$ |  |  |  |  |
| \% | $t$ |  | - \% Spot Light |  |  |  |  |
| Visbility Click to show or hide the item. |  |  |  |  |  |  |  |










Colour Temperatures in the Kelvin Scale






Chapter 5



## Projection

| Projection Type | Perspective |  |
| :---: | :---: | :---: |
| Focal Length | O 50 mm | 411 |
| Angle of View | $39.5978^{\circ}$ |  |
| Lens Distortion | 0.0 | 4l\| |




Rotation X O $0.0^{\circ}$
$Y$ Y $106.8974^{\circ}$
$Z \bigcirc 0.0203^{\circ}$
Order $O$ ZXY







| V Depth of Field |  |  |
| :---: | :---: | :---: |
| Focus Distance | O V Enable |  |
|  | O 4 m | 4 |
|  | Autofocus |  |
| F-Stop | 4.0 | (1) - |
| Iris Blades | 0 |  |
| Iris Rotation | $0.0^{\circ}$ | 4 |
| Edge Weighting | 50.0\% | (1) |




## 600DPI

1200DPI


Chapter 6




+




## Animate Dynamics Render Layout System Help

| Sethe Ammate f | Render | F9 |
| :---: | :---: | :---: |
| ygons Dimbterials | Render Current View | F10 |
|  | Render Selected | Shift-F9 |
| thinore stsoin... Reg | Render All |  |
|  | Render Turntable... |  |
|  | Render Animation... |  |
|  | Render Passes... |  |
|  | Open Preview Render |  |
|  | Open Network View |  |
|  | Open Render Window | Alt-Shift-F9 |



| Dynamics | Render | Layout System | Help |  |
| :---: | :---: | :---: | :---: | :---: |
| rmate 8 | Render |  | F9 | $\cdots+{ }^{2} \mathrm{Sn} 3$ |
| Matericls | Render Current View <br> Render Selected <br> Render All |  | F10 |  |
|  |  |  | Shift-F9 |  |
| ก...) Rg |  |  |  |  |





| \% Region |  |  |  |
| :---: | :---: | :---: | :---: |
| O Render Region |  |  |  |
| Left | O | 36.2528 \% | 417 |
| Right | 0 | 50.9978 \% | 0 -17 |
| To | O | 56.7628 \% | (1) |
| Bottor | $\bigcirc$ | 70.2883 \% | 41) |



## Chapter 7

| 5 | Name | Effect |
| :---: | :---: | :---: |
| 9 | Render <br> Alpha Output <br> A Final Color Output | Alpha <br> Final Color |





[^1]Maximum Depth 2.98 m
Contours (Ol None


















Depth Map
Source: depth
$\checkmark$

## Radius

7
$-0$








[^0]:    Remove

[^1]:    Output Gamma $\mathrm{O} \quad 2.2$

    1) $\checkmark$ Remap Pixel Values
