

# Table of Contents

- Introduction to 3D Modeling & Rendering . . . . . 1**
  - WHAT'S INSTALLED WITH RENDERWORKS? . . . . . 1
  - BEFORE YOU BEGIN . . . . . 2
  - SETTING PREFERENCES FOR 3D MODELING . . . . . 3
  - FILE ORGANIZATION FOR MODELING AND RENDERING . . . . . 7
  
- 3D Viewing Tools . . . . .11**
  - STANDARD VIEWS MENU . . . . . 11
  - PROJECTION MENU . . . . . 12
  - PERSPECTIVE MENU . . . . . 13
  - SET 3D VIEW. . . . . 14
  - ROTATE 3D VIEW . . . . . 14
  - THE VISUALIZATION TOOL SET . . . . . 15
  
- 3D Modeling Methods. . . . . 21**
  - CREATING 3D SOLIDS FROM 2D SHAPES . . . . . 21
  - DRAWING DIRECTLY IN 3D . . . . . 26
  - CONVERTING OBJECTS TO 3D . . . . . 27
  - BOOLEAN OPERATIONS. . . . . 28
  - CHAMFERS, FILLETS, AND SHELLS . . . . . 29
  - NURBS CURVES. . . . . 31
  - NURBS SURFACES. . . . . 34
  - HYBRID OBJECTS. . . . . 40
  - PARAMETRIC OBJECTS . . . . . 40
  
- Working Planes . . . . . 45**
  - USING WORKING PLANES. . . . . 45
  - SET WORKING PLANE TOOL . . . . . 46
  - MOVING AND ROTATING THE WORKING PLANE . . . . . 48
  - WORKING PLANES PALETTE . . . . . 48
  
- Lighting. . . . . 49**
  - LIGHTING PREFERENCES. . . . . 49
  - TYPES OF LIGHTING . . . . . 50
  - PLACING LIGHTS . . . . . 52
  - LIGHTING TECHNIQUES . . . . . 60
  - CREATING LIGHT RIGS. . . . . 65
  - LIGHTS IN VIEWPORTS, LAYER LINKS, & CLASSES . . . . . 66

## TABLE OF CONTENTS

<b>Rendering Modes</b> .....	<b>69</b>
<b>RENDERING MENU</b> .....	<b>69</b>
<b>GENERAL INFORMATION ON RENDERING</b> .....	<b>70</b>
<b>RENDERWORKS SETTINGS</b> .....	<b>71</b>
<b>RADIOSITY SETTINGS</b> .....	<b>81</b>
<b>RENDERING MODES</b> .....	<b>86</b>
<b>RENDER BITMAP TOOL</b> .....	<b>91</b>
<b>RENDERING AND VIEWPORTS</b> .....	<b>92</b>
<b>Rendering with Textures</b> .....	<b>91</b>
<b>IMPORTING TEXTURE LIBRARIES</b> .....	<b>91</b>
<b>APPLYING TEXTURES</b> .....	<b>92</b>
<b>TEXTURE MAPPING</b> .....	<b>93</b>
<b>CREATING TEXTURES</b> .....	<b>96</b>
<b>Animation</b> .....	<b>109</b>
<b>ORBIT POINT ANIMATION</b> .....	<b>109</b>
<b>MOVE ALONG PATH ANIMATION</b> .....	<b>111</b>
<b>SOLAR ANIMATION</b> .....	<b>113</b>
<b>Backgrounds and Image Props</b> .....	<b>115</b>
<b>CREATING RENDERWORKS BACKGROUNDS</b> .....	<b>115</b>
<b>IMAGE PROPS</b> .....	<b>118</b>
<b>RenderWorks Output</b> .....	<b>119</b>
<b>PRINTING</b> .....	<b>119</b>
<b>EXPORTING RENDERINGS</b> .....	<b>120</b>
<b>OTHER EXPORT OPTIONS</b> .....	<b>125</b>