

Contents

Acknowledgmentsix
About the Authorxi
About the Book	xiii
About the Contributors	xv
Introductionxvii
Chapter 1: Introduction to 3ds Max	1
The Quad Menu5
Setting Up 3ds Max6
Game Art Terminology6
Geometry6
Stitched Geometry and Floating or Intersecting Geometry8
LODs9
Textures	10
Types of Texture Layouts	13
Tiling Texture	14
Unique Texture	14
A Unique Texture with Tiling Elements	15
Chapter 2: Creating, Unwrapping, and Texturing Simple Models	17
Model 1—Cardboard Box	17
3ds Max Shortcuts	19
Texture-Mapping Your Box	20
Common Problems	31
Rendering Your Model	31
Model 2—Creating a Plastic Barrel	33
Performing the Boolean	41
Fixing Your Mistakes	43
Creating the Texture for the Barrel	52
Texture-Mapping the Barrel	57
Chapter 3: Creating Complex Objects from Primitives	65
Creating the Blockout	67
Creating the Final Model	71
Scene Setup	71

Smoothing Groups	90
Unwrapping and Texturing the Floor Buffer	92
Chapter 4: Vegetation and Alpha Maps	115
Creating and Using Alpha Maps/Channels	115
Creating the Diffuse Textures for Vegetation	120
Modeling Vegetation.....	132
Chapter 5: Low-Poly Vehicle	143
Creating the Texture Map for the Truck	230
The Finished Truck	234
Chapter 6: Creating LODs	235
LOD 1.....	239
LOD 2.....	240
LOD 3.....	241
LOD 4.....	241
Chapter 7: Normal Maps	243
World Space and Object Space Normal Maps	246
Tangent Space Normal Map	246
The Process of Creating a Normal Map.....	246
Tips for Creating Normal Maps	258
Chapter 8: Gallery.....	261
Chapter 9: Creating a 3D Environment.....	273
Are you ready? OK, let's go!.....	273
The 2D Plan.....	275
Blockout.....	276
Concept	283
Production.....	286
Lighting and Rendering the Final Scene	322
Chapter 10: High- and Low-Poly Characters.....	329
Introduction	329
Our "Pipeline"	330
Before You Start: The Concept	330
An Extensive Knowledge of Anatomy	331
Ask Questions	332
Collecting References.....	333

Getting Ready to Start—Setting Up Image Planes	334
Starting to Build the Character	335
Expert Mode, Hotkeys, and Scripting	337
Viewport Preferences	338
Getting the Basic Proportions Right	339
Cutting in More Detail	347
The High-Resolution Mesh: Breaking Up the Shapes	358
The Shell Modifier	358
The High-Resolution Mesh: Adding More Detail	359
Helmet	359
Mask	360
Vest	360
Shoulder Pads	360
Forearm Pad and Kneepad	361
Gas Tank	361
Glove	361
Belt and Details	362
Codpiece and Other Details	362
Shin Pads	362
Kneepad and Shoe	363
Chemical Suit	363
Breathing Pipe	364
Subdividing Your Model with TurboSmooth	368
Microbeveling	368
Microbeveling the Shoe Edges	371
Finishing the Symmetrical Details	373
Making the UVs in UV layout	374
The Asymmetrical Details: Making the Folds and Creases	381
Flow, Flow, Flow!	382
Gravity, Tension, and the Feel of the Fabric	382
The Ambient Occlusion Bake	385
Final Tweaks	388
Texturing Eats Your RAM!	389
Baking the Basic Colors	390
Masking Each Layer	394
3D Paint Applications	398
Graphics Tablets	399

Rendering the UV Template	399
Painting the Dirt Map	400
Painting the Scratch Map	404
Layered Scratch Masks	405
Painting the High-Frequency Detail Layers	406
Normal and Specular Maps	408
Normal Mapping the High-Frequency Details	412
Adding More Small Details	415
The Danger Label on the Gas Tank	415
Metal Textures	415
Glowing Bulbs	416
Micro Bumps Layer	417
The High-Resolution Specular Textures	417
The Gun	419
In-Game Mesh Modeling	420
In-Game Mesh UVing	424
Baking Down the High-Resolution Details	427
Rendering Your Character	433
The Studio Wall	433
The Camera	434
Creating the Lights	434
Materials in Theory	437
Materials in 3ds Max	438
The Final Renders	440
Chapter 11: Portfolio and Interview	443
Portfolio	443
What to Include in Your Portfolio	444
What Not to Include	446
Producing the Work	447
Organizing the Content	447
Final Presentation of Your Portfolio	448
Applying for a Job	449
Resume or Curriculum Vitae and Cover Letter	450
At the Interview	451
Index	455