

Digital Painting Techniques



Wallace Jackson

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This book is dedicated to all those members of the open source community who are working so diligently to make professional new media application development software, as well as content development tools, freely available for new media application developers, so that they can utilize these tools to achieve their creative dreams and big financial goals. Last but not least, I dedicate this book to my brilliant father, Parker Jackson, my family, my life-long friends, and my production ranch neighbors, for their constant help, assistance, and those relaxing, Twilight BBQs, underneath the stars of Point Conception.

Contents at a Glance

About the Author	xiii
About the Technical Reviewer	xv
Acknowledgments	xvii
Introduction	xix
■ Chapter 1: Digital Painting Software: Corel Painter and Inkscape	1
■ Chapter 2: The Terminology of Digital Painting: Vector and Raster	13
■ Chapter 3: The Foundation of Digital Painting: Canvas and Brush.....	25
■ Chapter 4: Digital Painting with Image Tiles: Patterns and Weaves	37
■ Chapter 5: The Hardware of Digital Painting: Tablet and Stylus	53
■ Chapter 6: Digital Painting with Image Objects: Using Nozzles	63
■ Chapter 7: The Mimicry of Digital Painting: Using Quick Clone	79
■ Chapter 8: The Algorithms of Digital Painting: Plug-In Filters	93
■ Chapter 9: The Selection of Digital Painting: Pulling Masks	105
■ Chapter 10: The Compositing of Digital Painting: Using Layers	119

■ CONTENTS AT A GLANCE

■ Chapter 11: The Refinement of Digital Painting: Photo-Retouching.....	135
■ Chapter 12: The Coloring Book of Digital Painting: Sketching	147
■ Chapter 13: The Animation of Digital Painting: Physics Engines.....	161
■ Chapter 14: The Customization of Digital Painting: Brush Design	173
■ Chapter 15: The Automation of Digital Painting: Programming.....	189
■ Chapter 16: Publishing Digital Painting: Content Delivery Platforms.....	203
Index.....	211

Contents

About the Author	xiii
About the Technical Reviewer	xv
Acknowledgments	xvii
Introduction	xix
■ Chapter 1: Digital Painting Software:	
Corel Painter and Inkscape	1
Downloading and Installing Inkscape.....	2
Inkscape.org: Get Inkscape Illustration Software	2
Corel Painter 2016: Installing the Software.....	5
Setting Up Painter 2016: Adding Painter in Taskbar	6
Enhancing Painter 2016: Installing Brush Packs	9
Summary.....	11
■ Chapter 2: The Terminology of Digital Painting:	
Vector and Raster	13
Computer Graphics: Raster versus Vector	13
Basic Vector Shapes: Vertices, Lines, and Curves	14
Raster Concepts: Pixels, Aspect Ratio, Color, and Alpha	15
Inkscape: Tour of Primary User Interface	22
Painter: Tour of the Basic User Interface	23
Summary.....	24

- **Chapter 3: The Foundation of Digital Painting:**
 - Canvas and Brush..... 25**
 - Inkscape Brush Strokes: Digital Painting 25
 - Calligraphy Brush Stroke Tool: Basic Style Setting..... 26
 - Brush Strokes Configuration: Advanced Settings 28
 - Painter 2016 Brushes: Dynamic Painting 31
 - Types of Digital Painting: Painter 2016 Workflows 31
 - Automatic Painting: Using Painter’s Auto-Painting..... 32
 - Summary 35
- **Chapter 4: Digital Painting with Image Tiles:**
 - Patterns and Weaves 37**
 - Inkscape Styles: Stroke, Fill, and Gradient 37
 - Using GIMP: Creating Your Image Pattern 39
 - Using Imagery in Painting and Illustration 43
 - Using Bitmap Images as Fill: Inkscape Pattern Fill..... 43
 - Bitmaps in Painting: Painter Patterns and Weaves..... 46
 - Summary 52
- **Chapter 5: The Hardware of Digital Painting:**
 - Tablet and Stylus 53**
 - Digital Painting Hardware: Pen and Tablet 53
 - Pressure-Sensitive Stylus: Digital Pens for Mobile..... 54
 - The Tablet with Pressure and Tilt Sensitive Stylus 55
 - Touchscreen Tablet with Pressure and Tilt Stylus..... 57
 - Installing Digital Painting Hardware Driver 58
 - Find the Correct Driver: Google Search for Product..... 58
 - Installing the Latest Driver: Run as Administrator 60
 - Summary 61

■ **Chapter 6: Digital Painting with Image Objects: Using Nozzles 63**

Painter Nozzles: Painting with Imagery..... 63

Creating Nozzles: Using Multiple Layers 66

 Creating Vector Shapes in Painter: The Brush Tool..... 67

 Creating a Solid Nozzle Image: Using the Fill Tool..... 69

 Transforms in Painter: Using the Rotate Transform 71

 Creating a Nozzle: Group Layers and Make Nozzle 74

Summary 78

■ **Chapter 7: The Mimicry of Digital Painting: Using Quick Clone.... 79**

Digital Painting with Photos: Quick Clone 79

Painting Effects: Enhanced Brush Strokes 88

Summary 91

■ **Chapter 8: The Algorithms of Digital Painting: Plug-In Filters 93**

Painter’s Pixel Processing: Effects Menu 93

 Embossing: Applying Surface Textures in Painter..... 94

 Matching Color Palettes: The Tonal Control Menu 95

 Posterizing: Reducing the Colors Used in Artwork..... 96

 Sketching: Finding Edges in an Image with Painter 96

 Changing Focus: Color Sharpen Images in Painter..... 97

 Esoterica: Special Effects Using Painter Algorithms..... 98

 High Pass Filter: An Audio Filter Works on Images 99

 Creating Pop Art: Using the Pop Art Fill Algorithm 100

Inkscape and HTML5 Filters: SVG Filters..... 101

Summary 103

- **Chapter 9: The Selection of Digital Painting: Pulling Masks 105**
 - Painter Selections: Algorithms or Wands..... 105
 - Auto Selection: Having Algorithms Select Pixels 106
 - Selecting What You Don't Want: Invert Selection 107
 - Saving Selections: Using Your Alpha Channels..... 108
 - Manual Selection Sets: Using the Magic Wand Tool 110
 - Inkscape Selections: Selecting Vectors 116
 - Summary 118

- **Chapter 10: The Compositing of Digital Painting:
Using Layers 119**
 - Painter Layers: The Compositing Pipeline 119
 - Composite Separation: Seamless Layer Elements 120
 - Drag and Drop: Changing Composite Layer Order 123
 - Layer Masks: Adding an Alpha Channel to a Layer 126
 - Dynamic Plug-In Layers: Special Effects Layers..... 127
 - Layer Compositing Blend Modes: Color Algorithms..... 131
 - Inkscape: Digital Illustration Compositing 133
 - Summary 134

- **Chapter 11: The Refinement of Digital Painting:
Photo-Retouching 135**
 - Painter Photo-Retouching: Details Editing 135
 - Rubber Stamp: Sampling Pixels from Another Area 136
 - The Dodge Tool: Lightening Underneath the Eye 138
 - The Burn Tool: Darkening the Whitened Lip Areas 140
 - Summary 145

■ Chapter 12: The Coloring Book of Digital Painting: Sketching.....	147
A Painter Sketch Workflow: Coloring a Cel.....	147
Automatic Sketch Painting: Overlay Blending Mode.....	148
Painting a Sketch: Painter’s Natural Media Brushes	150
Summary	159
■ Chapter 13: The Animation of Digital Painting: Physics Engines.....	161
Paint Stroke Attributes: Algorithm Control.....	161
Audio Expression: Your Digital Painting Vocoder	162
Particle Brushes: Animated Digital Paint Brushes	165
Dynamic Speckle Options: Fattening Your Strokes.....	169
RealBristle: Simulating Natural Media Brushes.....	170
Summary	172
■ Chapter 14: The Customization of Digital Painting: Brush Design	173
Brush Customization: Learn All Attributes	173
The Pattern Pen: Painting with Seamless Patterns	174
The Eraser Brush: Bleach Colors, Leaving Texture.....	177
The Blenders Brush: Affecting Colors on a Canvas.....	178
The F-X Brushes: Brushing In Special Effects	181
Smart Strokes: Traditional Brushes Using Effects	184
Summary	186
■ Chapter 15: The Automation of Digital Painting: Programming.....	189
Content Delivery Programming Platforms.....	189
Java 7, 8, 9 and JavaFX: A javafx.scene.effect API	190
HTML5 and CSS3: Digital Painting Compositing.....	192

■ CONTENTS

Android Studio: Java's PorterDuff Blending Modes	193
Game Design: SVG for Collision Detection	195
Painter 2016 Scripting: Coding for Painter	198
Summary	201
■ Chapter 16: Publishing Digital Painting: Content Delivery Platforms.....	203
Open Source Formats: PDF, HTML, EPUB.....	203
Portable Document Format: Digital Illustration PDF	204
Hypertext Markup Language: HTML Digital Painting	204
Electronic Publishing: Digital Painting in EPUB3	205
Open Platforms: Java, Android, and Kindle.....	205
eBook Readers: Kindle Fire, Android, Java or PDF	205
iTV Sets: Android TV, Java, JavaScript, and HTML5	206
Smartwatches: Android WEAR, Java, and HTML5	206
Smartphone and Tablet: Android, Java, and HTML5	207
Game Console: Android, Java, JavaFX, and HTML5	208
Future Devices: Robots, VR, and Home Appliances.....	208
Paid Software Platforms: iOS or Windows.....	209
Apple iPhone and iPad: Supported Media Formats	209
Windows Phone: Supported Digital Media Formats.....	209
Summary	210
Index.....	211

About the Author



Wallace Jackson has been writing for several leading multimedia publications about work in the new media content development industry, after contributing a piece about advanced-computer-processing architectures for the centerfold (a removable “mini issue” insert) of an original issue of *AV Video Multimedia Producer* magazine that was distributed at the SIGGRAPH trade show. Wallace has written for a large number of popular publications about his work in interactive-3D and new-media-advertising campaign design, including: *3DArtist* magazine, *Desktop Publisher Journal*, *CrossMedia* magazine, *Kiosk* magazine, *AV Video Multimedia Producer* magazine, *Digital Signage* magazine, and many other publications.

Wallace Jackson has authored more than a dozen Apress book titles, including four titles in its popular Pro Android series, Java and JavaFX game development titles, digital image compositing titles, digital audio editing titles, digital video editing titles, digital illustration titles, and Android new media content production titles.

In the current book on digital painting and compositing, he focuses on the Inkscape and Corel Painter 2016 digital painting and layer compositing software packages, and uses them to demonstrate digital painting as well as digital image editing and compositing fundamentals to beginners who wish to become digital painting professionals.

Wallace is currently the CEO of Mind Taffy Design, a new media advertising agency which specializes in new media content production and digital campaign design and development, located in La Purisima State Park in Northern Santa Barbara County, on the Point Conception Peninsula, halfway between its clientele in Silicon Valley to the north, and Hollywood, “The OC,” West LA, and San Diego to the south.

Mind Taffy Design has created open-source, technology-based (HTML5, JavaScript, Java 8, JavaFX 8, and Android 6.0) digital-new-media i3D content deliverables for more than a quarter century, since January of 1991.

The company’s clients consist of a significant number of international brand manufacturers, including IBM, Sony, Tyco, Samsung, Dell, Epson, Nokia, TEAC, Sun Microsystems (Oracle), Micron, SGI, KDS USA, EIZO, CTX International, KFC, Nanao USA, Techmedia, EZC, and Mitsubishi Electronics.

■ ABOUT THE AUTHOR

Wallace received his undergraduate BA degree in Business Economics from the University of California at Los Angeles, or UCLA, and his graduate degree in MIS/IT Business Information Systems Design and Implementation from University of Southern California in Los Angeles (USC).

Wallace also received post-graduate degrees from USC, in Entrepreneurship and Marketing Strategy, and completed the USC Graduate Entrepreneurship Program. Wallace earned his two USC degrees while at USC's night-time Marshall School of Business MBA Program, which allowed him to work full-time as a COBOL and RPG-II programmer while completing his business and IT degrees.

You can visit Wallace's blog at www.wallacejackson.com to view his multimedia production content. You can also follow him on Twitter at @wallacejackson.

About the Technical Reviewer



Chád (“Shod”) Darby is an author, instructor, and speaker in the Java development world. As a recognized authority on Java applications and architectures, he has presented technical sessions at software development conferences worldwide (in the United States, UK, India, Russia, and Australia). In his fifteen years as a professional software architect, he’s had the opportunity to work for Blue Cross/Blue Shield, Merck, Boeing, Red Hat, and a handful of start-up companies.

Chád is a contributing author to several Java books, including *Professional Java E-Commerce* (Wrox Press), *Beginning Java Networking* (Wrox Press), and *XML and Web Services Unleashed* (Sams Publishing). Chád has Java certifications from Sun Microsystems and IBM. He holds a BS in computer

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You can visit Chád’s blog at www.luv2code.com to view his free video tutorials on Java. You can also follow him on Twitter at @darbyluvs2code.

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Introduction

Digital Painting Techniques is intended for the digital artist, digital photographer, multimedia producer, illustrator, application developer, website developer, user interface design architect, user experience designer, social media user, image compositor and just about anyone who's interested in generating high-quality digital paintings or special effects, delivered in popular PNG, JPEG, GIF, BMP, WebP, PSD, and RIFF data formats.

The book covers digital painting, editing and compositing and this equates to digital imaging, digital illustration, and digital painting fundamentals all combined together in one book including technical terms, topics, concepts, and definitions.

Each chapter will build upon the knowledge learned in the previous chapter; thus, later chapters in the book have readers creating advanced digital painting compositing pipelines, using alpha channels, masking, selection sets, blending mode, special effects, editing layers and similar advanced compositing tools.

There is even coverage at the end of this book, regarding data footprint optimization, as well as creating digital image compositing pipelines using open source platforms such as Java, JavaFX, HTML5, CSS3, JavaScript, Scripting, and Android Studio.

In Chapter 1 we install the open source Inkscape software as well as Corel Painter 2016, and take a cursory tour of their user interface designs. In Chapter 2, we learn the foundational information behind both raster imaging and vector illustration, because digital painting is a fusion between these technologies as paint strokes are vector paths while the paint itself is the raster pixels that make up the resulting digital painting image that you see on the display screen.

Chapter 3 introduces you to the Brush, and to your Canvas (Painter) and your Page (Inkscape) drawing surfaces, as well as how to get Painter to create the digital painting automatically for you, by using the Corel Painter 2016 Auto-Paint features.

Chapter 4 covers digital painting or digital illustration concepts of seamlessly tileable patterns (Inkscape), as well as weaves (Painter) and gradients. Vector concepts of stroking and filling vector shapes is also covered during this chapter.

Chapter 5 covers the plethora of hardware products which make professional digital painting possible, including stand-alone stylus products, tablet+stylus products, and touchscreen-display-enabled tablet+stylus products. You can still use your mouse with this book; however, if you don't yet have a digital painting hardware set-up, as all of the examples for this book are designed to be mouse-friendly so all users can play along.

Chapter 6 covers digital painting "nozzles" in Painter to use with the Image Hose Brush category. Not only do we use the Image Hose with Nozzles, to blow imagery all over your Canvas, but we also learn how to create your own professional Nozzles, using any images that you want to use in your digital painting!

Chapter 7 covers Painter 2016's Quick Clone feature. This allows you to use your digital photograph as a source image and apply your own digital paint brush strokes, which use the color from the source image, to create a digital painting out of your favorite digital photography assets.

Chapter 8 covers SVG Plug-In Filters in Inkscape and Plug In Effects in Painter. These apply algorithmic special effects to your digital illustrations, digital paintings, and digital imagery, and are not only available in Inkscape but in HTML5.

Chapter 9 starts to get into more advanced concepts, like selection sets, pulling masks, and storing the mask using alpha channels. We look at a Painter 2016 magic wand tool, and how to select objects within your compositions, as well as how you can select your vector objects in Inkscape.

Chapter 10 discusses layers, and the layer-based approach that digital compositing software packages, including imaging, illustration, video, painting and even audio, take to create a complex new media asset. This chapter also covers algorithmic, Porter-Duff “blending modes,” called “composite methods” within Painter, and called the blend mode within Inkscape.

Chapter 11 covers how to do photo-retouching with Painter 2016 tools. This shows how similar Painter 2016 is to popular image editing software, and shows how to prepare your digital photographs for a cloning process that turns them into artwork.

Chapter 12 shows the Painter “Sketch and Paint” workflow, including the sketch algorithm, and how to use layers and masks (selection sets) to utilize this workflow. This builds upon the previous two chapters’ content.

Chapter 13 covers Algorithmic Brushing Engines in Painter including physical systems, fluid dynamics, natural media brush simulation, and similar brushes where algorithms do most of the work in creating the effect that the brush has on the paper you have selected to use to capture the brush strokes and dynamics.

Chapter 14 covers Brush Design and Brush Categories using Brush Variants to explore how the hundreds of Brush Parameters will allow you to create your own custom digital paintbrushes.

Chapter 15 covers Scripts in Painter, as well as computer programming languages and how they factor into digital painting and layer compositing. I cover most of your popular open source platforms, such as Java 8, JavaFX, Android 6, Kindle and HTML5.

Chapter 16 covers publishing digital painting artwork for leading content delivery platforms and popular hardware devices spanning from smartwatches to UHD 4K iTV interactive television sets and everything in between, including e-Readers, HD tablets and smartphones.

If you are interested in digital painting and you want to learn the fundamentals, and how everything works, in the digital painting domain from algorithmic brush dynamics to creating the multi-layer compositing pipeline, this is the digital painting and special effects book for you.

The book is overflowing with tips, tricks, tools, topics, terminology, techniques, concepts, and work processes. Indeed, this Digital Painting Techniques book can give you the boost to transition from digital painting neophyte to that knowledgeable professional that you seek to become, at least where a digital painting and digital layer compositing pipeline is concerned.