

Digital Painting Techniques

Using Corel Painter 2016

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.

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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 startup 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

science from Carnegie Mellon University.

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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Chád Darby for his work as the Technical Reviewer on the book and for making sure that I didn't make technical mistakes.

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.

■ INTRODUCTION

Chapter8 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.

CHAPTER 1

тт

Digital Painting Software: Corel Painter and Inkscape

Welcome to *Digital Painting Techniques*! This book will take you through the terminology, concepts, and techniques involved in digital painting. Digital painting is a fusion of the popular digital image compositing and digital illustration new media genres, with a sprinkle of physics algorithms and special effects thrown in for good measure. We will also cover technical issues such as codecs and formats, how to use digital painting assets with popular computer programming languages, and open source content publishing platforms such as Kindle, Android Studio, HTML5, and JavaFX, and similar issues allowing you to "bridge" your digital artwork with interactive new media creations.

I will start with low-level concepts: in this chapter it is the **software tools**, and how to download and install them for use during this book. After that, we'll build upon foundational concepts from each previous chapter in the subsequent chapters, until you get a comprehensive understanding of digital painting and all the complex subjects and components that factor into it such as raster data, vector data, RGB colors, alpha, gradients, patterns, brushes, nozzles, dynamics, physics, tablet or stylus hardware, multilayer compositing, image formats, work process, physics algorithms, special effects processing, data footprint optimization, open source computer programming, and interactive content publishing.

I will show you how these concepts, techniques, and terms apply to Corel Painter and the Inkscape open source digital illustration software package. This just so happens to be free for commercial use and very similar in features to Adobe Illustrator and CorelDRAW.

For this reason part of the chapter, logically the first part, would be how to download and install open source Inkscape software, just in case you do not have any digital painting and illustration software on your multimedia workstation currently. Then, you'll learn about the foundational elements of digital illustration.

All our readers are going to need to have digital illustration software of one type or another, whether that is **Corel Painter** or the open source (free) Inkscape. If you do not own Corel Painter, you can use the free for commercial use **Inkscape**. Corel Painter also has a trial version you can use during this book.

Downloading and Installing Inkscape

Let's install Inkscape first on Windows, Mac OS X, or Linux.

Inkscape.org: Get Inkscape Illustration Software

To download the current stable version of Inkscape, you will go to: http://www.inkscape.org, and click on the green **Download Arrow** link seen in Figure 1-1; or alternately click the **Download** tab, directly underneath and to the right of the **Draw Freely** slogan.

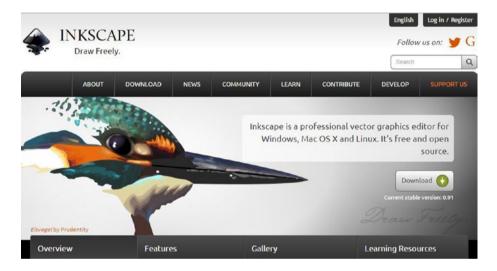


Figure 1-1. Go to the inkscape.org and click the Download arrow

Download the **inkscape-0.91-x64.msi** installer file if you are using Windows, or a Linux or Mac version. Next, right-click on it and select the **Install** option to start your installation process. Inkscape for Windows uses a 64-bit version, since most modern-day workstations run 64-bit Windows Vista, 7, 8.1, or 10. Figure 1-2 shows the downloaded file, which has been selected, and right-clicked on to reveal the context-sensitive menu, with this **Install** option selected in blue. If for some reason you do not own a 64-bit content production workstation, go to Walmart and get one for under \$600.

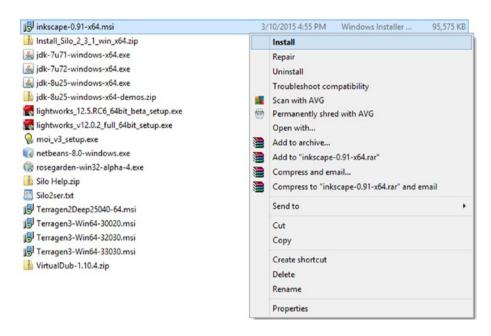


Figure 1-2. Right-click on .MSI file, and select Install option

You can purchase a brand name workstation tower for \$450 to \$600 at Walmart, or on http://www.PriceWatch.com. I've used, and recommend, the Acer, HP, Dell, Razer, and Compaq workstations.

Once your installation starts, click the **Next** button, as is shown on the left-hand side of Figure 1-3.



Figure 1-3. Click Next, then Next, then the Typical Button

Once you click on the **Next** button you'll get an **End-User License Agreement** dialog. Select the "I accept the terms in the License Agreement" check box and then click on **Next** to continue.

Next, click on a **Typical** installation type button, as is seen on the right-hand side in Figure 1-3, to specify a default installation, which will include everything that you will need.

This will give you the **Ready to Install Inkscape** dialog, seen in Figure 1-4 on the left, where you can click on **Install**.



Figure 1-4. Click the Install Button to begin the installation

You will then get your **Installing Inkscape** progress bar, and once that has finished, the **Completed Inkscape Setup Wizard** dialog will appear. Click the **Finish** button, and install shortcut icons to Inkscape on the desktop or taskbar for easy launch access. Once you have done this, launch Inkscape, and make sure that it works. You should see what is shown in Figure 1-5. Once you have Inkscape installed, we can move on and install Painter.

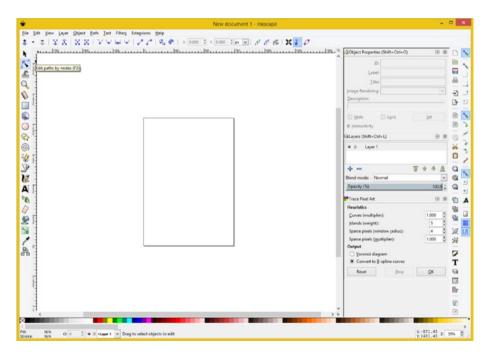


Figure 1-5. Launch Inkscape to make sure it installed correctly

Corel Painter 2016: Installing the Software

Next, let's install Corel Painter 2016, which you can get from Corel at a discount, if you've purchased this book, so the book ends up being an amazing investment! You can also use the free trial version as you go through this book, so you don't have to make that investment until you have learned more about this digital painting software package. This is one software package you will want to add to your content production workstation and pipeline. First you will download the <code>Painter 2016 x64.exe</code> file from http://www.PainterArtist.com, and then run the installer from your browser downloads area by selecting <code>Run</code> this file, or right-clicking the EXE file and selecting <code>Run</code> as <code>Administrator</code>. This launches the Installer Wizard dialog, seen in Figure 1-6.



Figure 1-6. Launch the Corel Painter 2016 InstallShield Wizard

As you can see in Figure 1-7 once you accept the default installation location folder of: C:/Program Files/Corel/Painter2016, you will get a progress bar dialog showing you the installation as it progresses through the stages of software installation.



Figure 1-7. Install to /Program Files/Corel/Painter2016 folder