

Bibliography: iOS and Mac Visualization and Immersive Interfaces

Swift

Daniel Steinberg, “A Swift Kickstart” (2nd edition), <https://itunes.apple.com/us/book/a-swift-kickstart/id891801923?mt=13>.

Brad Larson, Rapid Prototyping in Swift Playgrounds, <https://www.objc.io/issues/16-swift/rapid-prototyping-in-swift-playgrounds/>. Quick plotting demo.

Erica Sadun, Playground Secrets and Power Tips, <https://itunes.apple.com/us/book/playground-secrets-power-tips/id982838034?mt=11#>. I used this when building material. You probably don’t need it. Source code: <https://github.com/erica/swiftslowly>.

All of Apple’s Swift books, documentation, and videos, linked from one page: <https://developer.apple.com/swift/resources/>. I especially recommend the seven WWDC 2015 session videos. Don’t watch any of the 2014 Swift sessions, because the language changed so much in the intervening year.

Recommended Apple books: [Swift Programming Language](#), [Swift Standard Library Reference](#), and [Using Swift with Cocoa and Objective-C](#).

Apple Swift Developer blog: <https://developer.apple.com/swift/blog/>.

Swift Community Best Practices (Jonathan Wight @schwa et al.): <https://github.com/schwa/Swift-Community-Best-Practices>

SpriteKit

A nice intro to SpriteKit is from the 2013 Tech Talks Tour: <https://developer.apple.com/videos/play/techtalks2013-13/>.

From there, read the SpriteKit Programming Guide: https://developer.apple.com/library/ios/documentation/GraphicsAnimation/Conceptual/SpriteKit_PG/Introduction/Introduction.html#//apple_ref/doc/uid/TP40013043

SpriteKit Framework Reference: https://developer.apple.com/library/ios/documentation/SpriteKit/Reference/SpriteKitFramework_Ref/#classes

Further WWDC videos:

- 2015-604: What’s New in SpriteKit.
- 2015-608: Introducing GameplayKit.
- 2015-609: Deeper into Gameplay Kit with DemoBots.
- 2014-606: What’s New in SpriteKit for the sections on the Scene Editor and on shaders.
- 2014-608: Best Practices for Building SpriteKit Games. Covers architecture and prototyping.

Visualizing SpriteKit (Erica Sadun): <http://www.informit.com/articles/article.aspx?p=2234245>
This article covers SpriteKit debugging techniques to show the node names, boundaries, and hierarchy.

DemoBots: Building a Cross Platform Game with SpriteKit and GameplayKit: <https://developer.apple.com/library/prerelease/ios/samplecode/DemoBots/Introduction/Intro.html>. Apple's 2015 all-the-stops SpriteKit demo.

SceneKit

David Rönnqvist, "3D Graphics with Scene Kit", <https://itunes.apple.com/us/book/3d-graphics-with-scene-kit/id936235049?mt=13>. Source code: <https://github.com/d-ronnqvist/SCNBook-code>.

SceneKit Programming Guide: https://developer.apple.com/library/prerelease/mac/documentation/3DDrawing/Conceptual/SceneKit_PG/Introduction/Introduction.html#//apple_ref/doc/uid/TP40012282

objc.io, Issue 18, November 2014: "Scene Kit" (David Rönnqvist). <https://www.objc.io/issues/18-games/scenekit/>.

WWDC Session Videos:

- 2015-606: Enhancements to SceneKit.
- 2014-609: What's New in SceneKit.
- 2015-602: Managing 3D Assets with Model I/O.
- 2014-610: Building a Game in SceneKit. Lots of optimization tips.
- 2013-500: What's New in SceneKit. Most of it is reviewed in 2014-609 though.

SceneKit Slides for WWDC 2014: https://developer.apple.com/library/prerelease/mac/samplecode/SceneKitWWDC2014/Introduction/Intro.html#//apple_ref/doc/uid/TP40014551

SceneKit's Presentation for WWDC 2013: https://developer.apple.com/library/prerelease/mac/samplecode/SceneKit_Slides_WWDC2013/Introduction/Intro.html#//apple_ref/doc/uid/DTS40013423

Fox: Building a SceneKit Game with the Xcode Scene Editor: <https://developer.apple.com/library/prerelease/ios/samplecode/Fox/Introduction/Intro.html>

SceneKit State of the Union Demo (sample code): <https://developer.apple.com/library/prerelease/mac/samplecode/SceneKitReel/Introduction/Intro.html>

Bananas: A simple SceneKit platforming game: <https://developer.apple.com/library/prerelease/mac/samplecode/Bananas/Introduction/Intro.html>

Web tools and Javascript

WWDC Session Videos:

- 2014-206: Introducing the Modern WebKit API.
- 2014-509: Creating 3D Interactive Content with WebGL. Has a simple OpenGL shader example.

NSHipster: WKWebView (Matt Thompson): <http://nshipster.com/wkwebkit/>

Safari Web Inspector: https://developer.apple.com/library/safari/documentation/AppleApplications/Conceptual/Safari_Developer_Guide/Introduction/Introduction.html

Josh Kehn, <http://www.joshuakehn.com/2014/10/29/using-javascript-with-wkwebview-in-ios-8.html> and <https://github.com/joshkehn/JSMessageExample>

Visualization

Stephen Few, "Information Dashboard Design (second edition)", chapter 2: "Thirteen common mistakes in dashboard design".

Edward Tufte, "The Visual Display of Quantitative Information (second edition)", chapter 6: "Data Ink Maximization and Graphical Design".

Edward Tufte, "Beautiful Evidence", chapter 2, "Sparklines: Intense, Simple, Word-Sized Graphics".

Bostock et al., Data Driven Documents: <http://d3js.org>

Scott Murray, D3 Tutorials: <http://alignedleft.com/tutorials/d3/>

Scott Murray, Interactive Data Visualization for the Web (O'Reilly 2013), <http://chimera.labs.oreilly.com/books/12300000000345/>

Mike Bostock et al., D3 Gallery: <https://github.com/mbostock/d3/wiki/Gallery>

Mike Bostock, mbostock's bl.ocks, <http://bl.ocks.org/mbostock>

Elijah Meeks, D3.js in Action (Manning, February 2015). <https://www.manning.com/books/d3-js-in-action>. Source code: https://manning-content.s3.amazonaws.com/download/7/f2ab18b-4764-4b75-97e3-3fa829122a9d/D3js_SourceCode.zip

Nick Qi Zhu, Data Visualization with D3.js Cookbook (Packt Publishing, 2013). <https://www.packtpub.com/web-development/data-visualization-d3js-cookbook>. Source code: <https://github.com/NickQiZhu/d3-cookbook>.

Christophe Viau, The Big List of D3.js Examples, <http://christopheviau.com/d3list/>.

Marmelab, <http://marmelab.com/blog/2013/07/01/building-sophisticated-webapps-for-mobile-a-bumpy-ride.html> (D3 in UIWebView)

Leonardo Lee, <https://github.com/lee-leonardo/iOS-D3> (D3 in WKWebView with UIWebView fallback)

General Apple Development

Apple Developer Forums: <https://forums.developer.apple.com/welcome>

iOS

App Programming Guide for iOS: https://developer.apple.com/library/ios/documentation/iPhone/Conceptual/iPhoneOSProgrammingGuide/Introduction/Introduction.html#//apple_ref/doc/uid/TP40007072

iOS Human Interface Guidelines: https://developer.apple.com/library/ios/documentation/UserExperience/Conceptual/MobileHIG/index.html#//apple_ref/doc/uid/TP40006556

Mac

Mac App Programming Guide: https://developer.apple.com/library/prerelease/mac/documentation/General/Conceptual/MOSXAppProgrammingGuide/Introduction/Introduction.html#//apple_ref/doc/uid/TP40010543

OS X Human Interface Guidelines: https://developer.apple.com/library/mac/documentation/UserExperience/Conceptual/OSXHIGuidelines/index.html#//apple_ref/doc/uid/20000957

Apple TV

App Programming Guide for tvOS: https://developer.apple.com/library/prerelease/tvos/documentation/General/Conceptual/AppleTV_PG/index.html#//apple_ref/doc/uid/TP40015241

Apple TV Human Interface Guidelines: <https://developer.apple.com/tvos/human-interface-guidelines/>

General

Xcode Overview: https://developer.apple.com/library/ios/documentation/ToolsLanguages/Conceptual/Xcode_Overview/index.html#//apple_ref/doc/uid/TP40010215

Simulator User Guide: https://developer.apple.com/library/ios/documentation/IDEs/Conceptual/iOS_Simulator_Guide/Introduction/Introduction.html#//apple_ref/doc/uid/TP40012848

Debugging with Xcode: https://developer.apple.com/library/ios/documentation/DeveloperTools/Conceptual/debugging_with_xcode/chapters/about_debugging_w_xcode.html#//apple_ref/doc/uid/TP40015022

Instruments User Guide: https://developer.apple.com/library/prerelease/mac/documentation/DeveloperTools/Conceptual/InstrumentsUserGuide/index.html#//apple_ref/doc/uid/TP40004652

Testing with Xcode: https://developer.apple.com/library/ios/documentation/DeveloperTools/Conceptual/testing_with_xcode/chapters/01-introduction.html#//apple_ref/doc/uid/TP40014132

Auto Layout Guide: https://developer.apple.com/library/ios/documentation/UserExperience/Conceptual/AutolayoutPG/index.html#//apple_ref/doc/uid/TP40010853

App Distribution Guide: https://developer.apple.com/library/ios/documentation/IDEs/Conceptual/AppDistributionGuide/Introduction/Introduction.html#//apple_ref/doc/uid/TP40012582

Metal Programming Guide: https://developer.apple.com/library/ios/documentation/Miscellaneous/Conceptual/MetalProgrammingGuide/Introduction/Introduction.html#//apple_ref/doc/uid/TP40014221

WWDC Videos:

- 2015-608: Introducing GameplayKit.
- 2014-502: AVAudioEngine in Practice.
- 2015-711: Networking with NSURLSession

Shipping an App with App Transport Security (Tim Ekl): <http://lithium3141.com/blog/2015/08/21/shipping-an-app-with-app-transport-security/>.

3D Modeling Tools

Blender

<http://www.blender.org>

Cheetah 3D

<http://www.cheetah3d.com>

Import Tutorial: <http://blog.manbolo.com/2014/08/10/import-cheetah3d-model-in-scenekit>

Maya

<http://www.autodesk.com/products/maya/>

MeshLab (format converter)

<http://meshlab.sourceforge.net> (precompiled binary available)

MagicaVoxel

<https://voxel.codeplex.com> and <https://ephtracy.github.io>

AssImp

<https://github.com/assimp/assimp>