

# Quartz Composer を iOSアプリ開発に活用する

Mobile Act NAGOYA #9

本日のテーマ



くおーつ

こんぽーざー

# Quartz Composer

- macOS の開発ツールの 1 つ（以前は Xcode に同梱）
- 高度なアニメーションをビジュアルプログラミングで簡単に作成することができる！
- 例えば macOS の標準スクリーンセーバーのいくつかは Quartz Composer で作られている（はず）

入手する

くおーつ

こんぽーざー

# Quartz Composer


- macOS の開発ツールの 1 つ (以前は Xcode に同梱)
- 高度なアニメーションをビジュアルプログラミングで簡単に作成することができる！
- 例えば macOS の標準スクリーンセーバーのいくつかは Quartz Composer で作られている (はず)

“Additional” で検索！

## Downloads for Apple Developers

### CATEGORIES

- ☒ Developer Tools (430)
- ☒ macOS (231)
- ☒ macOS Server (42)
- ☒ Applications (12)
- ☒ Safari (1)
- ☒ iOS (11)

Description	Release Date
<div>- Additional Tools for Xcode 9.3</div> <p>This package includes audio, graphics, hardware i/o and auxiliary tools formally bundled in Xcode. The package includes the following tools: Quartz Debug, OpenGL Profiler, Pixel, Quartz Composer, Quartz Composer Visualizer, Quartz Debug, Apple Bluetooth Guidelines Framework (Requires macOS Sierra), Bluetooth Explorer (Requires macOS Sierra), HomeKit Accessory Simulator, IO Registry Explorer, Network Link Conditioner.prefpane, PacketLogger, Printer Simulator, 64BitConversion, Clipboard Viewer, CrashReporterPrefs, Dictionary Development Kit, Help Indexer, Modem Scripts and Repeat After Me.</p> <div><b>Important:</b> Pre-release software, including information about pre-release software, is Apple Confidential Information and is subject to the terms of your Apple Developer Program License Agreement, and/or Registered Apple Developer Agreement, as applicable. Unauthorized distribution or disclosure of Apple Confidential Information is prohibited.</div>	<div>Jan 24, 2018</div> <div> <a href="#">Additional Tools for Xcode 9.3 beta.dmg</a> 59.2 MB</div>
+ Additional Tools for Xcode 8.2	Nov 6, 2017
+ Additional Tools for Xcode 8	Nov 6, 2017
+ Additional Tools for Xcode 8.1	Nov 6, 2017
+ Additional Tools for Xcode 9	Sep 18, 2017

(デモ)

QC でスクリーンセーバーを  
作ってみた



本題

「iOSアプリ開発に活用する」

## Framework

# Core Graphics

Harness the power of Quartz technology to perform lightweight 2D rendering with high-fidelity output. Handle path-based drawing, anti-aliased rendering, gradients, images, color management, PDF documents, and more.

---

## Overview

The Core Graphics framework is based on the Quartz advanced drawing engine. It provides low-level, lightweight 2D rendering with unmatched output fidelity. You use this framework to handle path-based drawing, transformations, color management, offscreen rendering, patterns, gradients and shadings, image data management, image creation, and image masking, as well as PDF document creation, display, and parsing.

In macOS, Core Graphics also includes services for working with display hardware, low-level user input events, and the windowing system.

### SDKs

iOS 2.0+

macOS 10.8+

tvOS 9.0+

watchOS 2.0+

### On This Page

[Overview](#) ▾

[Topics](#) ▾

[See Also](#) ▾

## Class

# QCVIEW

The `QCVIEW` class is a custom `NSVIEW` class that loads, plays, and controls Quartz Composer compositions. It is an autonomous view that is driven by an internal timer running on the main thread.

## Overview

The view can be set to render a composition automatically when it is placed onscreen. The view stops rendering when it is placed offscreen. When not rendering, the view is filled with the current erase color. The rendered composition automatically synchronizes to the vertical retrace of the monitor.

When you archive a `QCVIEW` object, it saves the composition that's loaded at the time the view is archived.

If you want to perform custom operations while a composition is rendering such as setting input parameters or drawing OpenGL content, you need to subclass `QCVIEW` and implement the `render(atTime:arguments:)` method.

SDK

macOS 10.4+

Framework

Quartz

On This Page

[Overview](#) ▾[Topics](#) ▾[Relationships](#) ▾

**iOSアプリ開発に活用できる？**

Framework

# Core Graphics

## iOSアプリの描画関連の プロトタイピングとか

Harness the power of Quartz technology to perform lightweight 2D rendering with high-fidelity output. Handle path-based drawing, anti-aliased rendering, gradients, images, color management, PDF documents, and more.

---

## Overview

The Core Graphics framework is based on the Quartz advanced drawing engine. It provides low-level, lightweight 2D rendering with unmatched output fidelity. You use this framework to handle path-based drawing, transformations, color management, offscreen rendering, patterns, gradients and shadings, image data management, image creation, and image masking, as well as PDF document creation, display, and parsing.

In macOS, Core Graphics also includes services for working with display hardware, low-level user input events, and the windowing system.

### SDKs

iOS 2.0+

macOS 10.8+

tvOS 9.0+

watchOS 2.0+

### On This Page

[Overview](#) ▾[Topics](#) ▾[See Also](#) ▾



(僕の事例)

Core Image のプロトタイピング

Framework

# Core Image

Use built-in or custom filters to process still and video images.

---

## Overview

Core Image is an image processing and analysis technology that provides high-performance processing for still and video images. Use the many built-in image filters to process images, and build complex effects by chaining filters. For details, see [Core Image Filter Reference](#).

You can also create new effects with custom filters and image processors; see [Core Image Programming Guide](#).

SDKs

iOS 5.0+

macOS 10.11+

tvOS 9.0+

On This Page

[Overview](#) ▾

[Topics](#) ▾

[See Also](#) ▾

# 僕の事例

- QC では Core Image も使える
- 最近の iOS の Core Image では macOS 並に  
できることが増えている
- 昔作ったアプリのリニューアル開発で活躍中！



# QCを使うメリット

- CIFilter の組み合わせをビジュアルに構築できる
- iOS シミュレータだとソフトウェアレンダリングになるので遅いけど、QC は GPU 使うので高速
- カスタムフィルター用の GLSL もすぐ試せるので CIColorKernel のプロトタイピングが捗る

(最後のデモ)

Core Image プロトタイピング

ありがとうございました！