

Sharing Code Between iOS and OS X

Lessons learned from iWork

Session 233

Elizabeth Reid

iWork Software Engineer

Chris Cowdery-Corvan

iWork Software Engineer

Table of Contents

What code can we share?

Using Frameworks to share more code

Shared rendering

File formats

Cross-platform projects in Xcode





1,000,000+

Lines of code in iWork

10,000+

Unique classes in iWork

> 75%

Classes shared in iWork



There's so much to see and do.



Explore by land.

Discover miles of hiking trails and encounter dozens of unique plant and animal species.

Explore by sea.

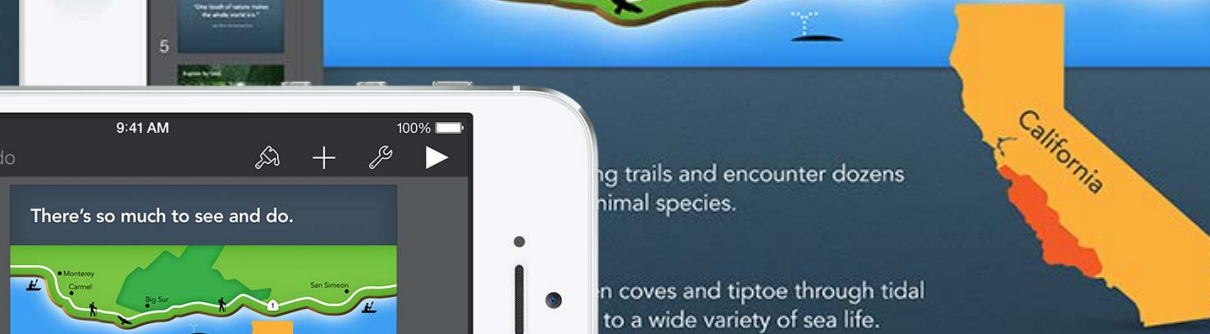
Paddle through hidden coves and tiptoe through tidal pools. Both are home to a wide variety of sea life.

There's so much to see and do.



ing trails and encounter dozens of unique plant and animal species.

n coves and tiptoe through tidal pools. Both are home to a wide variety of sea life.





There's so much to see and do.



Explore by land.

Discover miles of hiking trails and encounter dozens of unique plant and animal species.

Explore by sea.

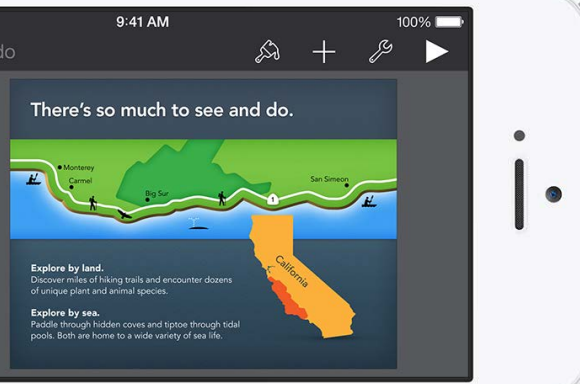
Paddle through hidden coves and tiptoe through tidal pools. Both are home to a wide variety of sea life.

There's so much to see and do.



Discover miles of hiking trails and encounter dozens of unique plant and animal species.

Paddle through hidden coves and tiptoe through tidal pools. Both are home to a wide variety of sea life.

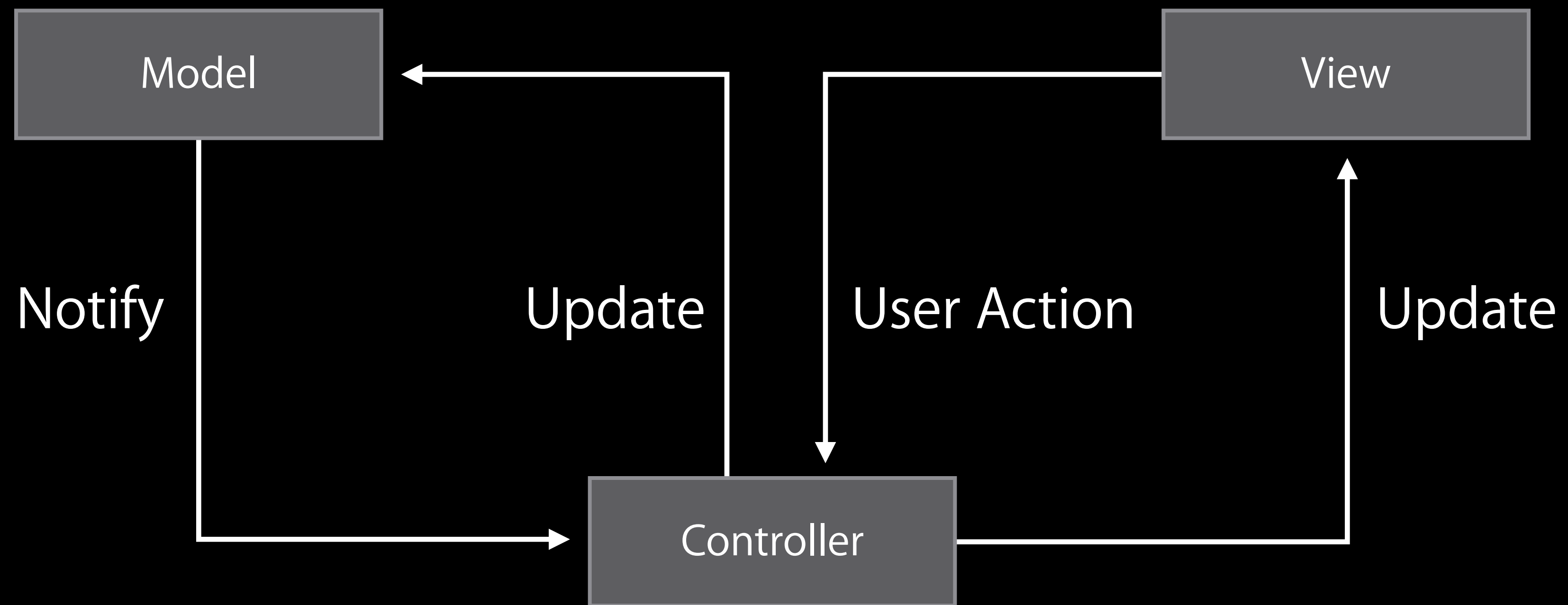


There's so much to see and do.

Discover miles of hiking trails and encounter dozens of unique plant and animal species.

Paddle through hidden coves and tiptoe through tidal pools. Both are home to a wide variety of sea life.

Model View Controller



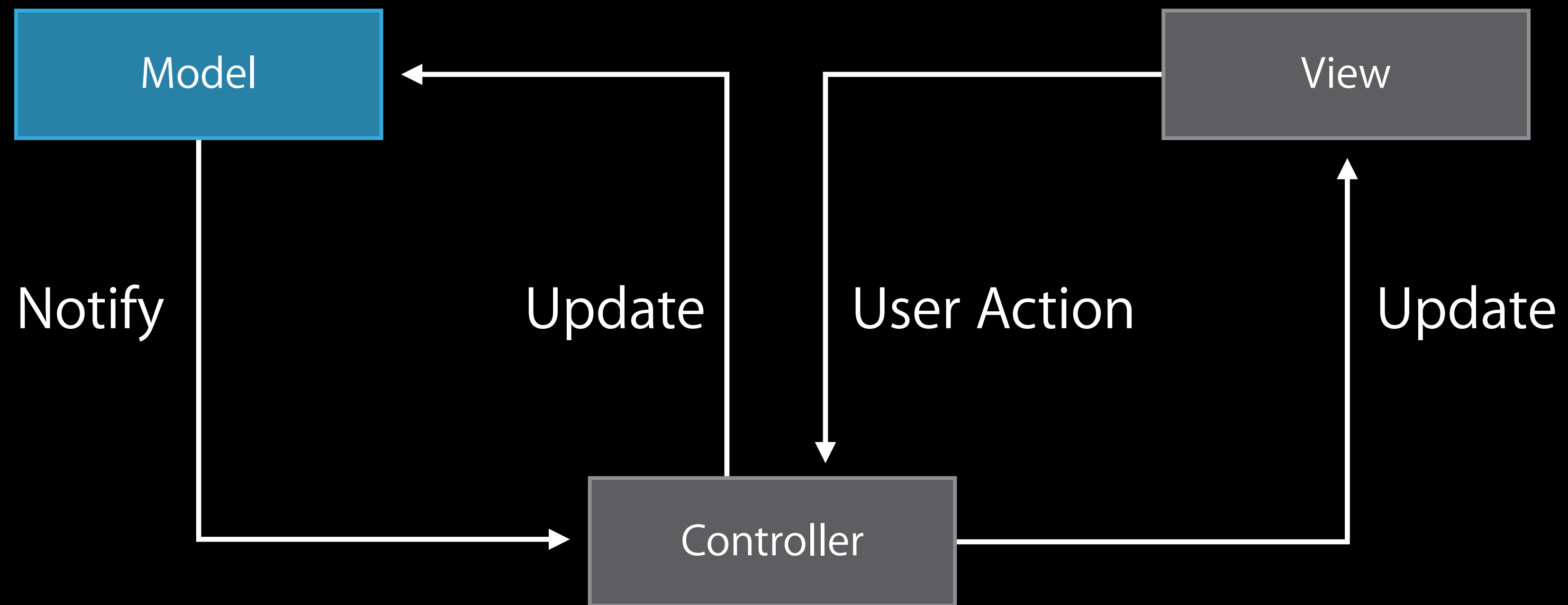
Model

Can we share it?

Documents should open the same way everywhere

No conversion, no data loss

Model View Controller



View

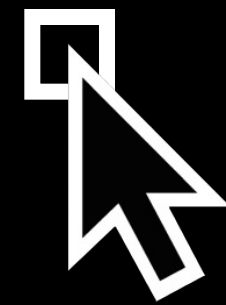
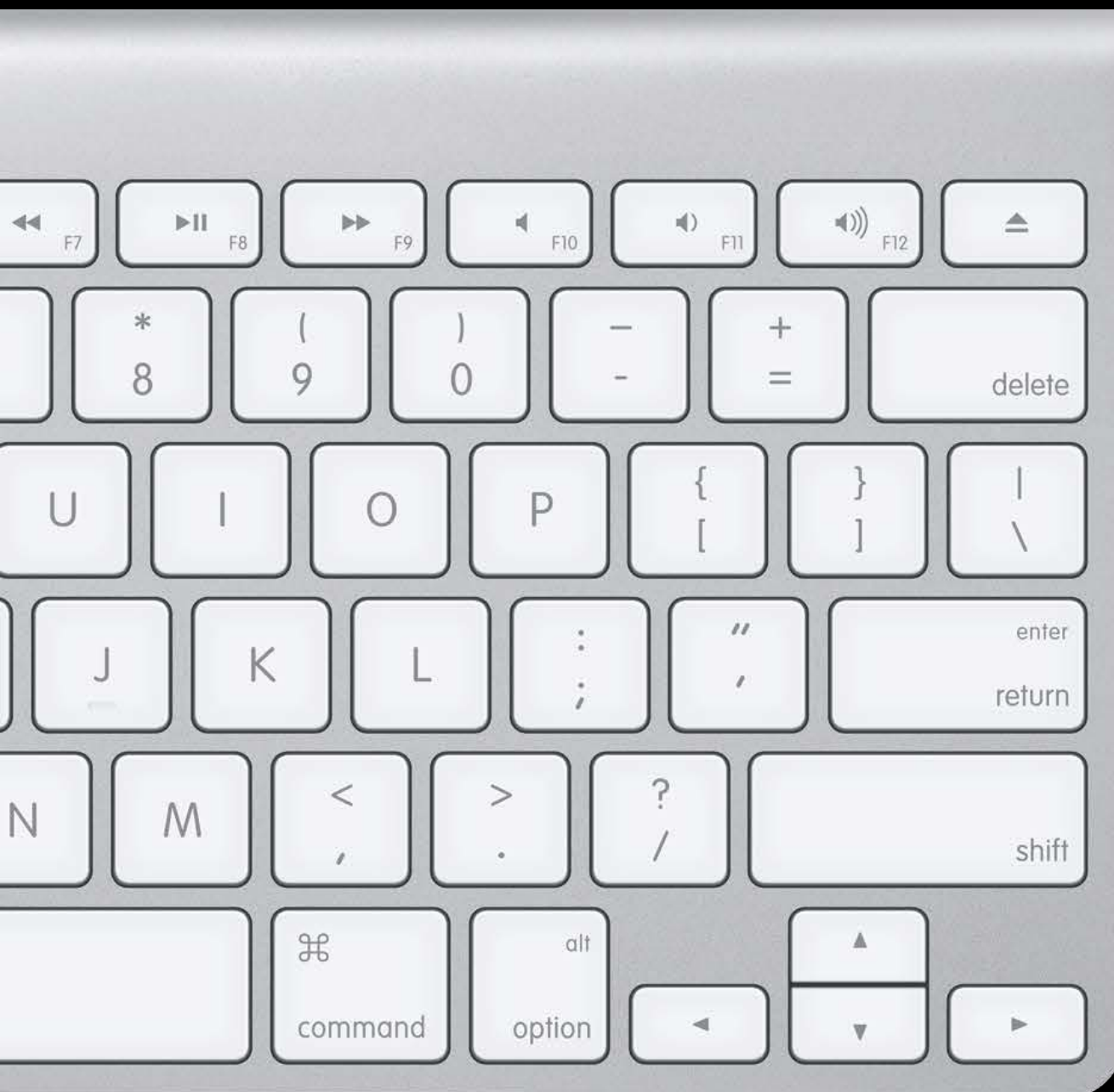
Can we share it?

Want the documents to look the same too!

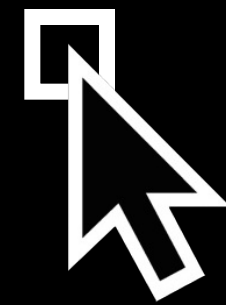
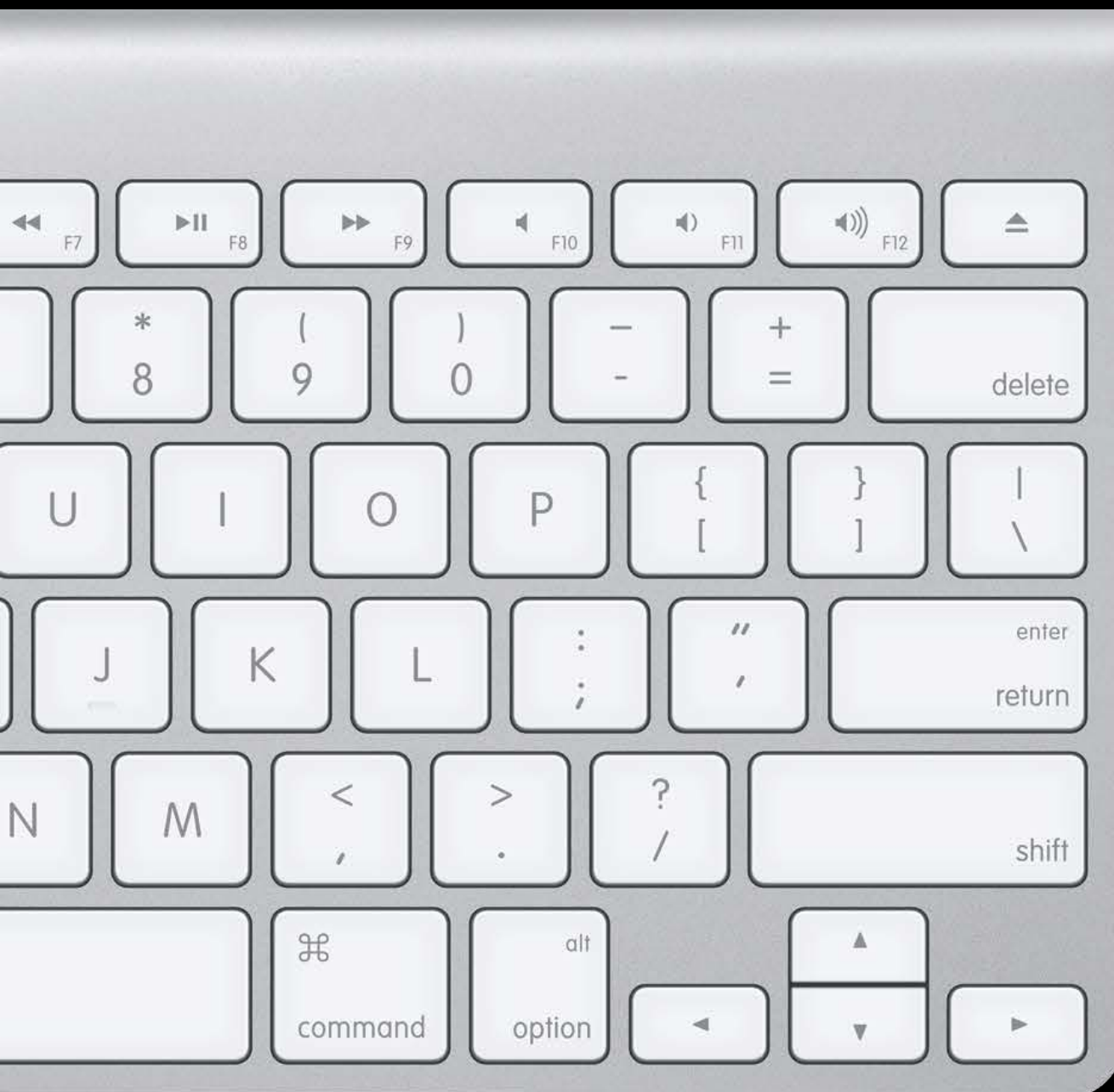
Can we share our view code?

Interaction

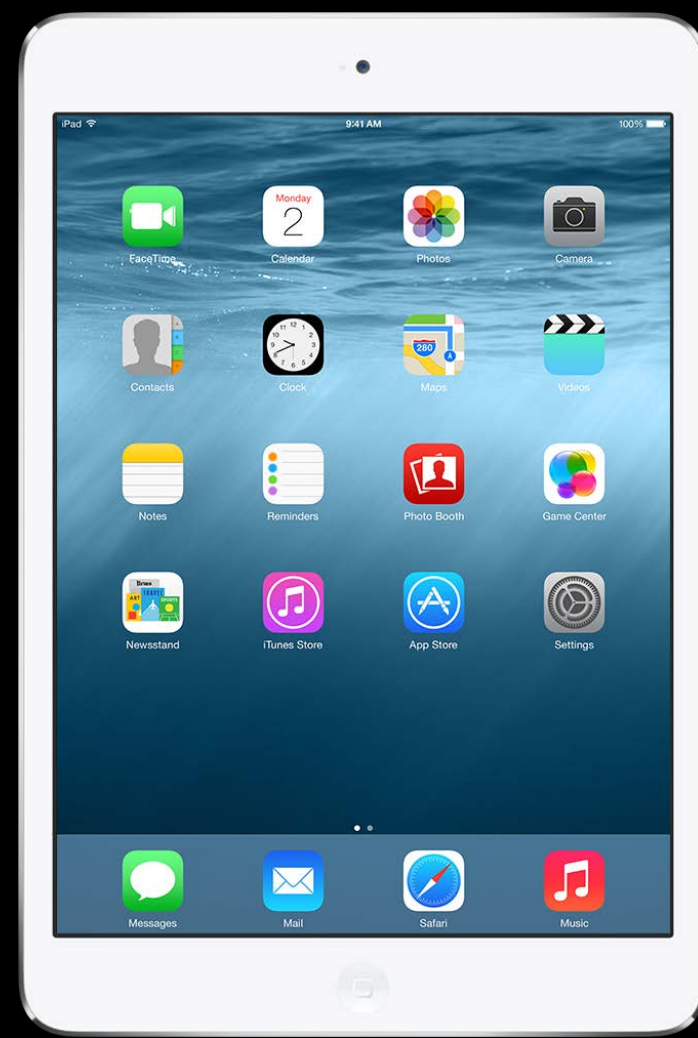
Interaction



Interaction



Multiple Windows



iOS

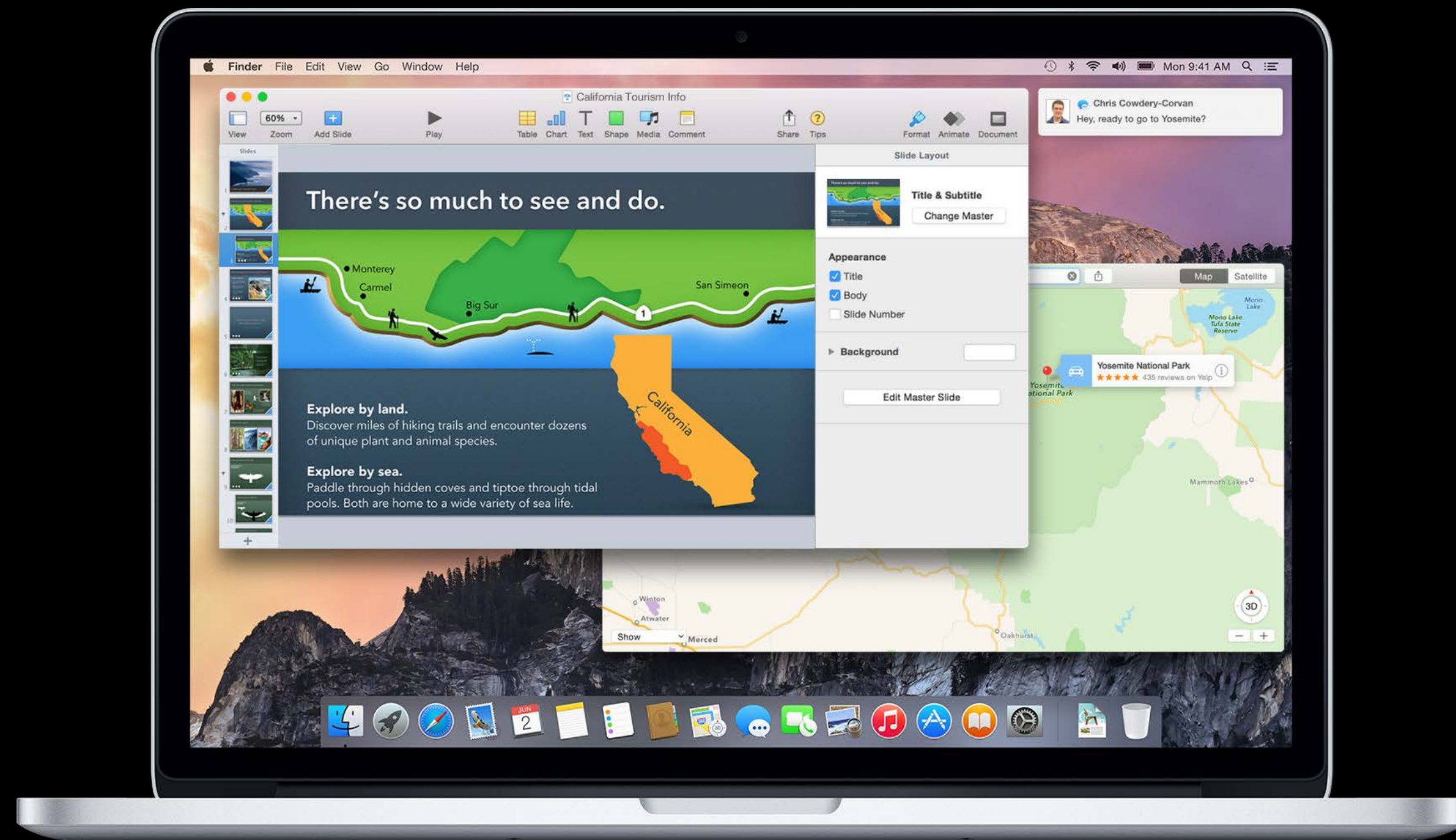


OS X

Multiple Windows



iOS



OS X

NSView/UIView

```
9 #import <Cocoa/Cocoa.h>
10
11 @interface MyView : UIView
12     Cannot find interface declaration for 'UIView', superclass of 'MyView'; did you mean 'NSView'?
13 @end
14
```

Shimming

Objective-C

Shimming

Objective-C

```
#if TARGET_OS_IPHONE
@interface MyAwesomeView : UIView
#else
@interface MyAwesomeView : NSView
#endif
{
}
@end
```

NSView and UIView

UIView

Receives and handles events

Responsible for drawing

NSView

Receives and handles events

Responsible for drawing

NSView and UIView

UIView

Receives and handles events

Responsible for drawing

Always backed by Core Animation Layer

Origin in top left

Subviews can draw outside view bounds

Gesture Recognizers

Animation APIs

NSView

Receives and handles events

Responsible for drawing

Layer-backed views optional

Origin in bottom left

Subviews clip to view bounds

Mouse event handling

Drag and Drop

Tooltip support

Cons of Shimming

Cons of Shimming

Commonly breaks builds

Cons of Shimming

Commonly breaks builds

Hard to target fixes

Cons of Shimming

Commonly breaks builds

Hard to target fixes

Requires `#if TARGET_OS_IPHONE` by design

Cons of Shimming

Commonly breaks builds

Hard to target fixes

Requires `#if TARGET_OS_IPHONE` by design

- Hard to read

Cons of Shimming

Commonly breaks builds

Hard to target fixes

Requires `#if TARGET_OS_IPHONE` by design

- Hard to read
- Hard to maintain

Cons of Shimming

Commonly breaks builds

Hard to target fixes

Requires `#if TARGET_OS_IPHONE` by design

- Hard to read
- Hard to maintain

Behaviors and UI will take on the look of the original platform by default

Shimming

Shimming

Helpful in select cases

Shimming

Helpful in select cases

- A class can mean different things on different platforms

Shimming

Helpful in select cases

- A class can mean different things on different platforms

Pushes complexity onto clients

Shimming

Helpful in select cases

- A class can mean different things on different platforms

Pushes complexity onto clients

- Try to keep it contained

Shimming

Swift



Shimming

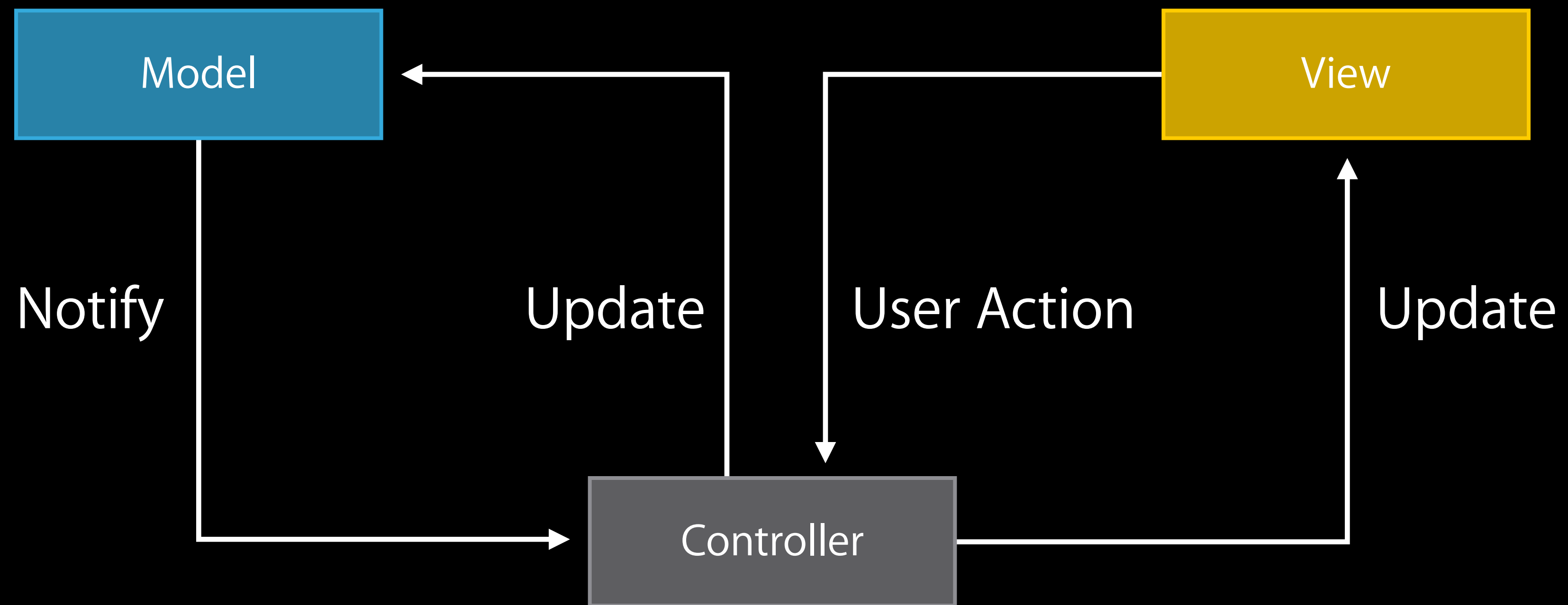
Swift



```
#if os(iOS)
import UIKit
class MyAwesomeView : UIView {
#else
import AppKit
class MyAwesomeView : NSView {
#endif

}
```

Model View Controller



Controller

Can we share it?

Controller

Can we share it?

Depends on the controller

Controller

Can we share it?

Depends on the controller

- View controllers

Controller

Can we share it?

Depends on the controller

- View controllers
- User interactions, hotkeys, mouse handling

Controller

Can we share it?

Depends on the controller

- View controllers
- User interactions, hotkeys, mouse handling

Lots of common controller logic

Controller

Can we share it?

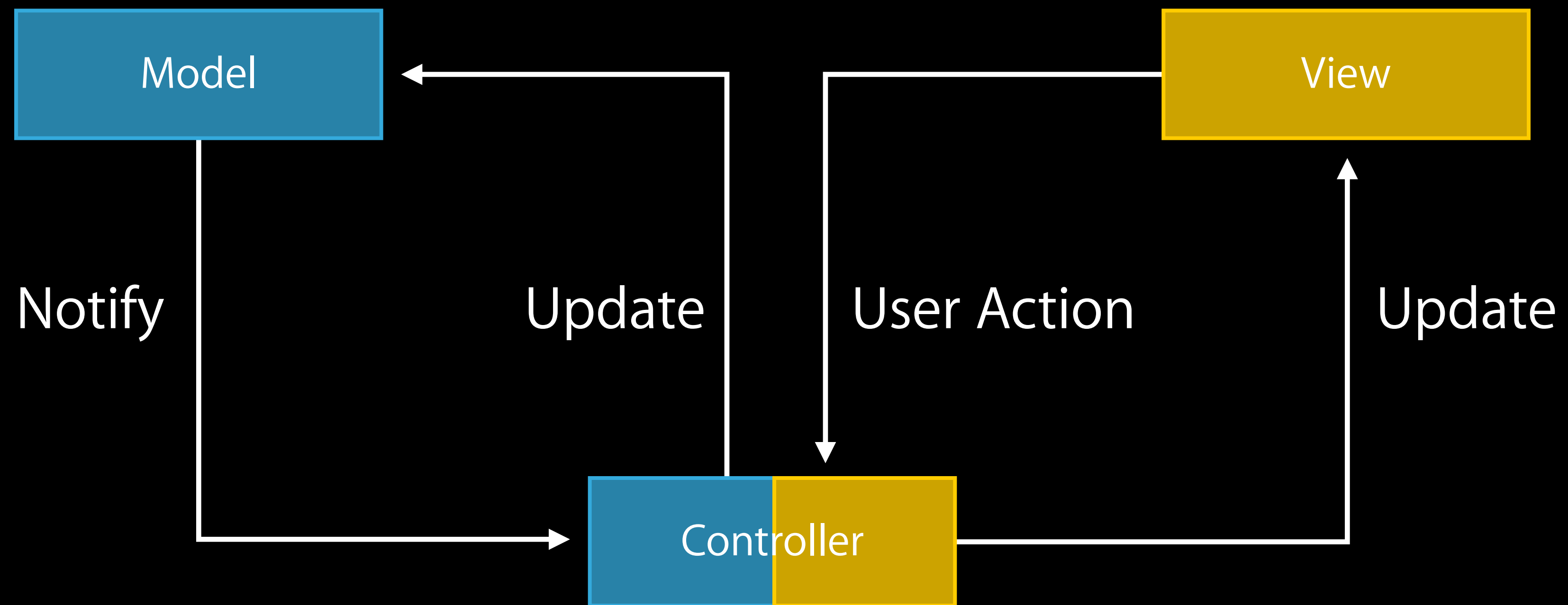
Depends on the controller

- View controllers
- User interactions, hotkeys, mouse handling

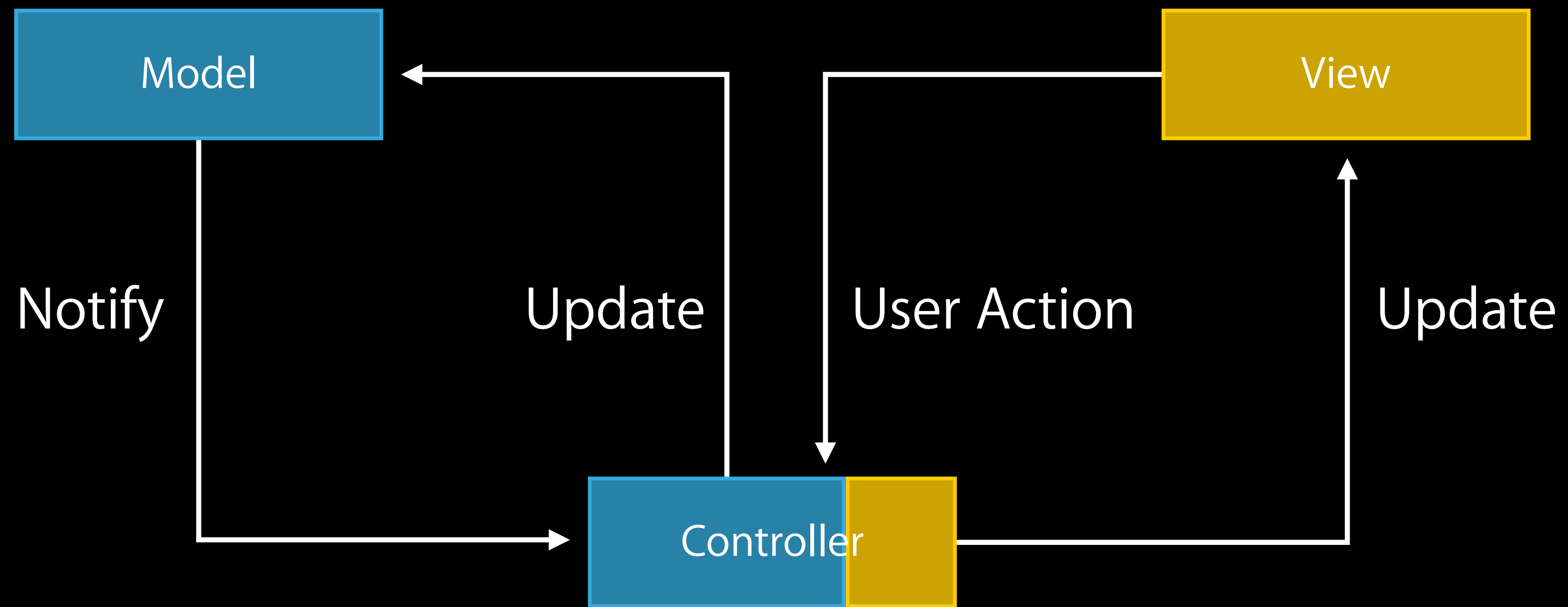
Lots of common controller logic

- Model controllers

Model View Controller



Model View Controller



Canvas View Controller



Canvas View Controller



Canvas View
Controller

Canvas View Controller

```
graph LR; A[Shared Canvas Controller] --- B[iOS Canvas View Controller]
```

Shared Canvas Controller

iOS
Canvas View
Controller

Canvas View Controller

```
graph LR; A[Shared Canvas Controller] --- B[iOS Canvas View Controller]
```

Shared Canvas Controller

iOS
Canvas View
Controller

Canvas View Controller

OS X
Canvas View
Controller

Shared Canvas Controller

iOS
Canvas View
Controller

Rotation

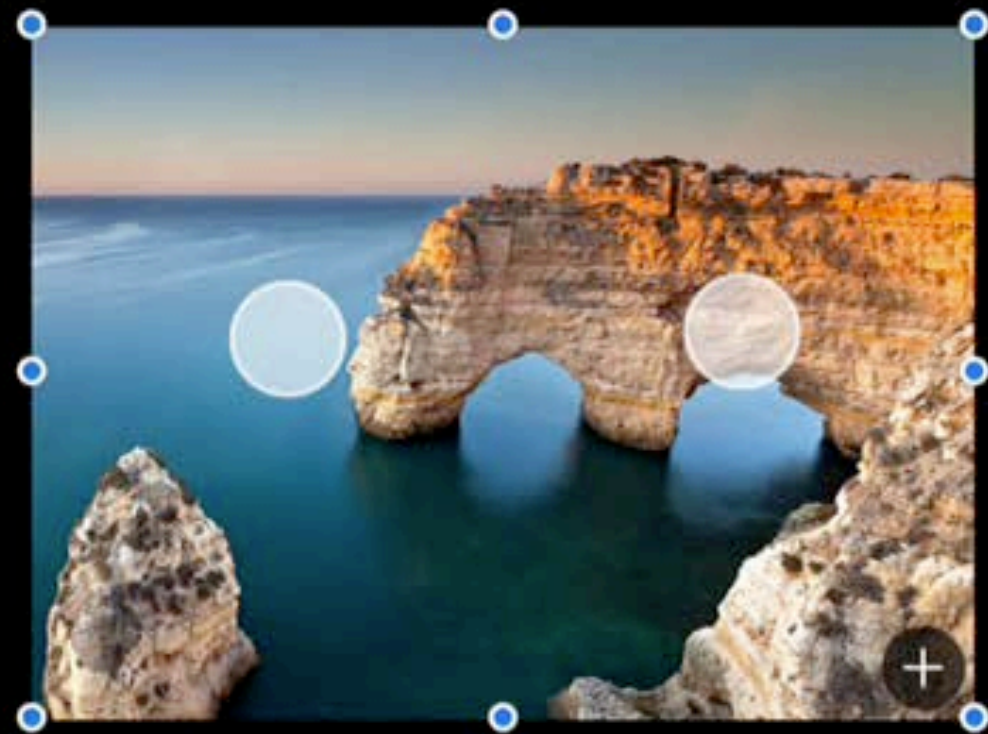
UI conventions differ

Same model, different interaction idioms

Rotation

UI conventions differ

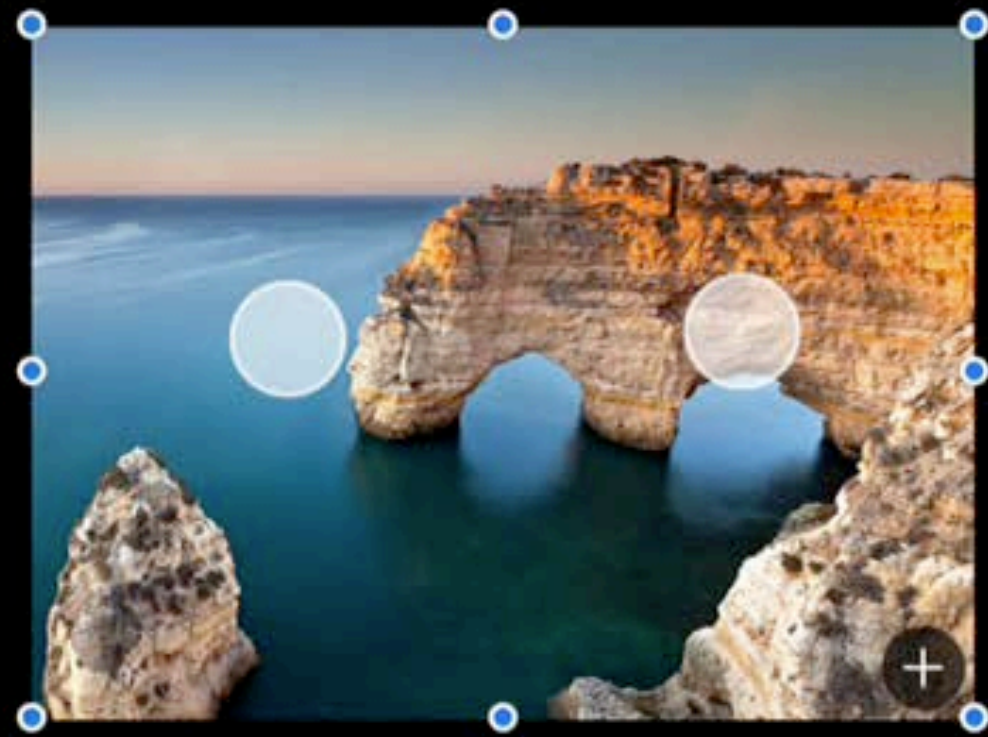
Same model, different interaction idioms



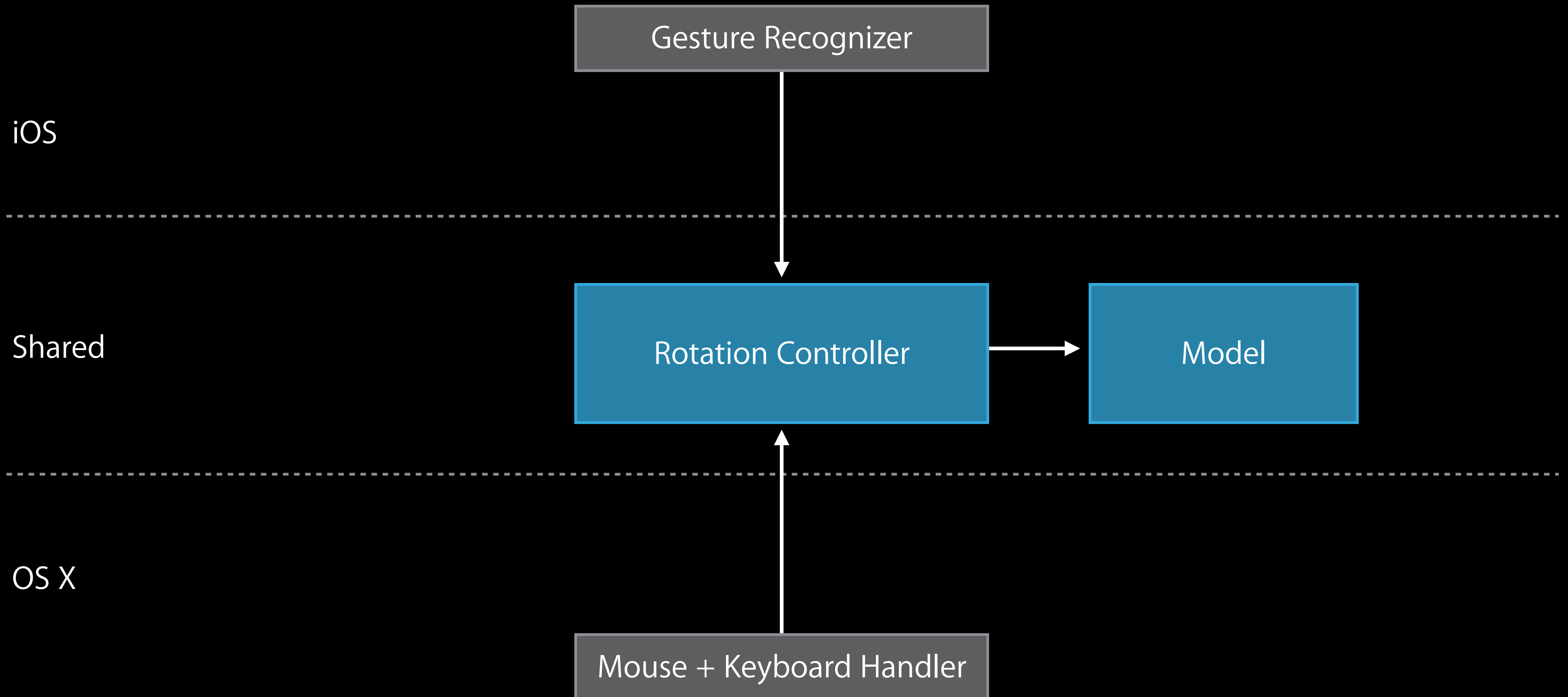
Rotation

UI conventions differ

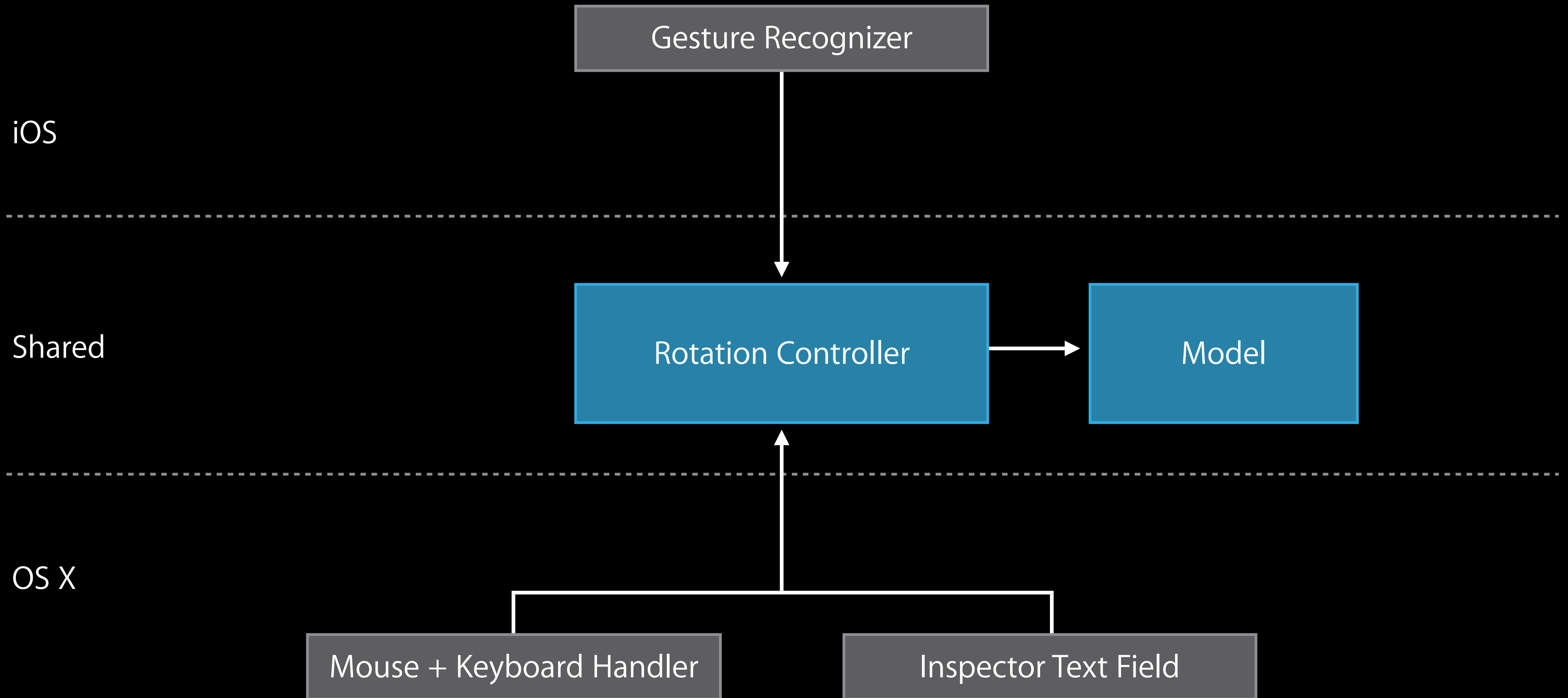
Same model, different interaction idioms



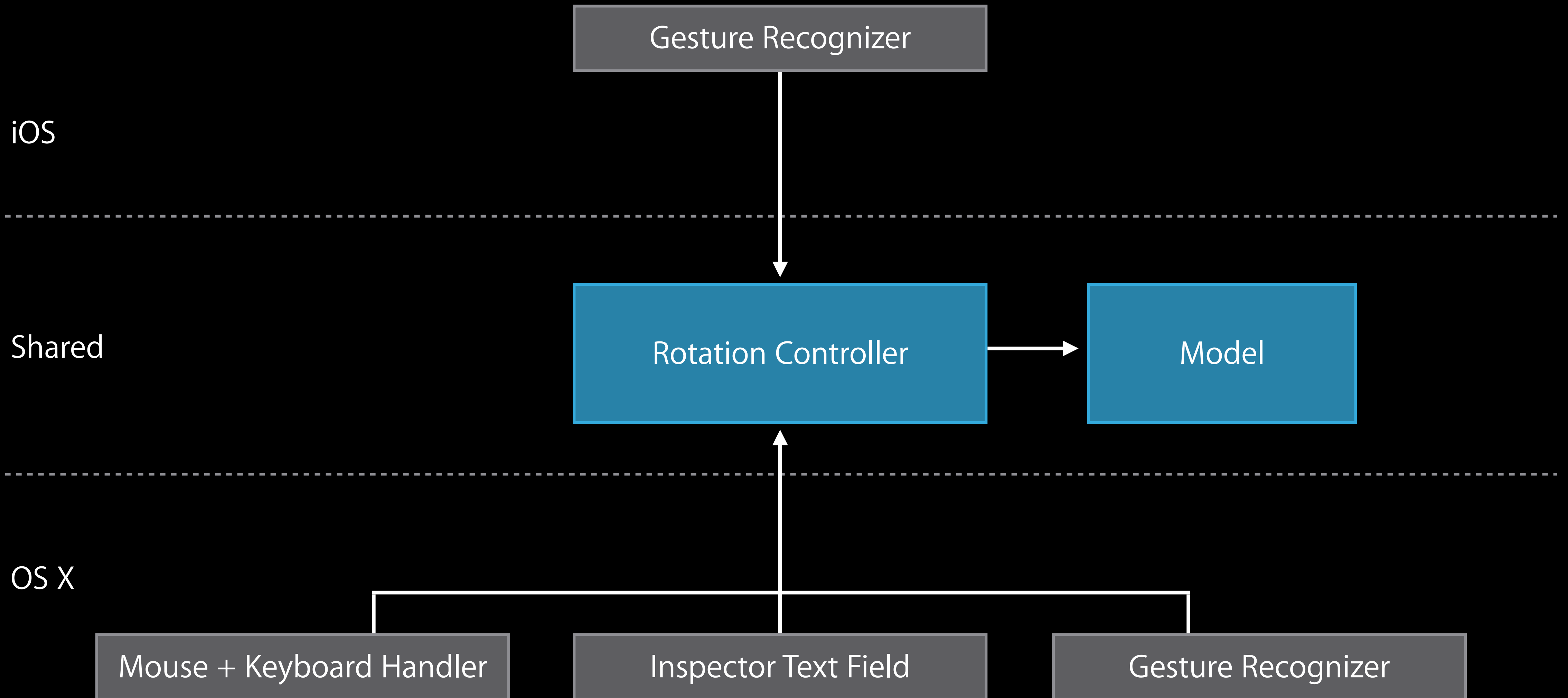
Rotation



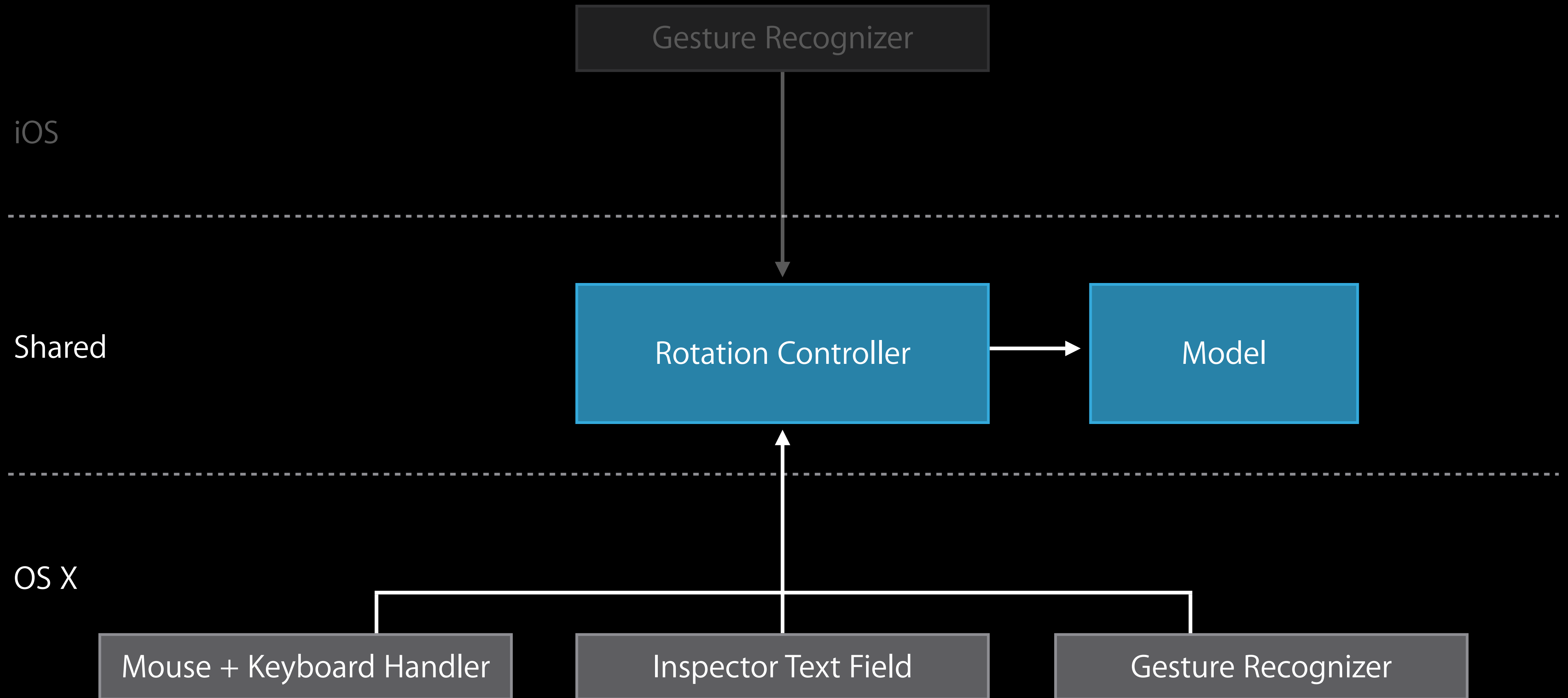
Rotation



Rotation



Rotation



Frameworks



Foundation	Core Foundation Foundation		Core Foundation Foundation
Persistence	Core Data CloudKit		Core Data CloudKit
Text	Core Text		Core Text
Media	Core Animation		Core Animation
	Core Graphics		Core Graphics
	Core Image		Core Image
	Core Audio		Core Audio
	AVFoundation		AVFoundation
UI	UIKit	≠	UIKit

Frameworks



Foundation	Core Foundation Foundation	Core Foundation Foundation
Persistence	Core Data CloudKit	Core Data CloudKit
Text	Core Text	Core Text
Media	Core Animation Core Graphics Core Image Core Audio AVFoundation	Core Animation Core Graphics Core Image Core Audio AVFoundation
UI	UIKit	AVFoundation UIKit

Frameworks



Foundation	Core Foundation Foundation		Core Foundation Foundation
Persistence	Core Data CloudKit		Core Data CloudKit
Text	Core Text		Core Text
Media	Core Animation		Core Animation
	Core Graphics		Core Graphics
	Core Image		Core Image
	Core Audio		Core Audio
	AVFoundation		AVFoundation
	UIKit		AVFoundation
UI	AppKit	≠	UIKit

Frameworks



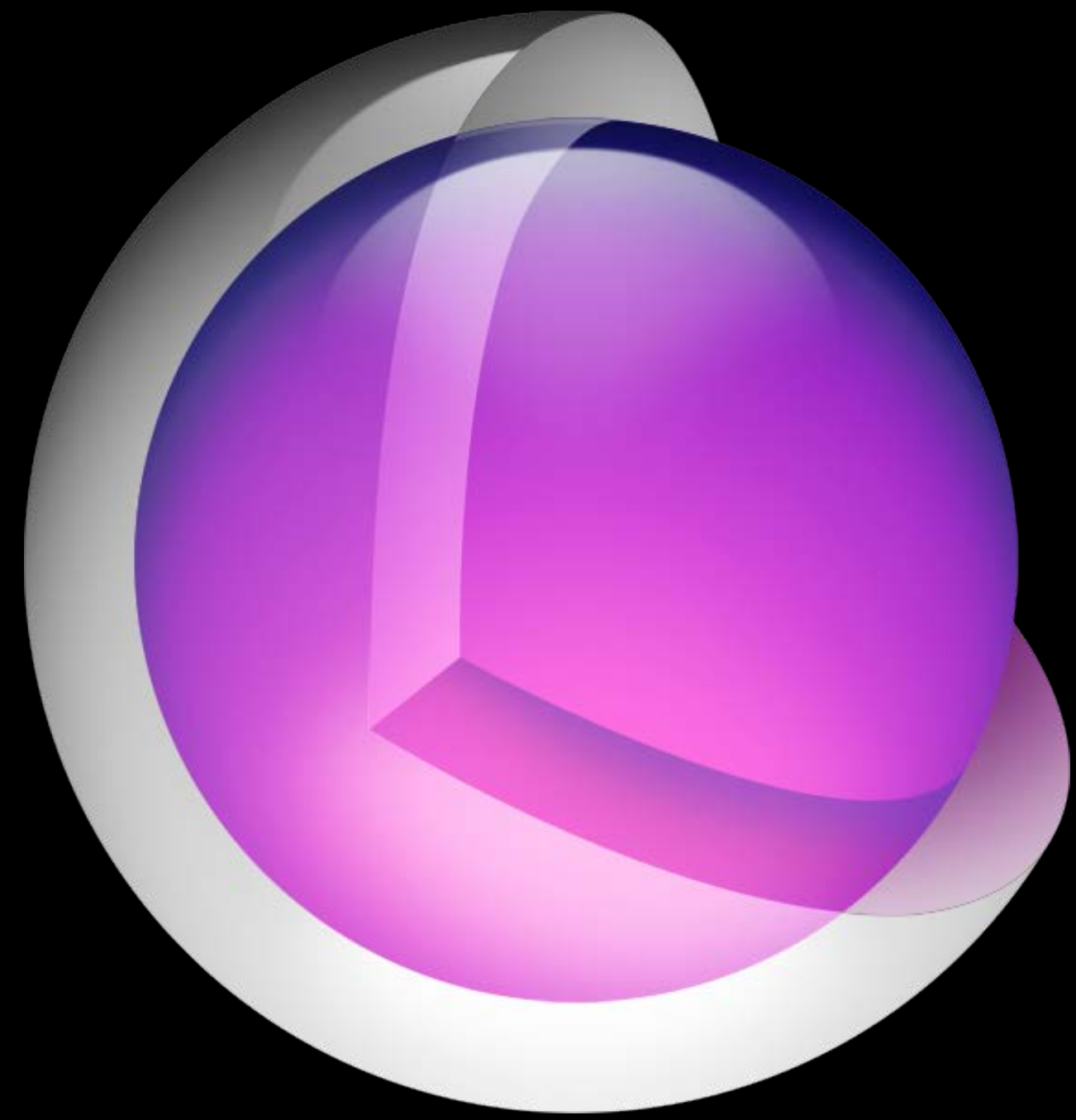
Foundation	Core Foundation Foundation	Core Foundation Foundation
Persistence	Core Data CloudKit	Core Data CloudKit
Text	Core Text	Core Text
Media	Core Animation	Core Animation
	Core Graphics	Core Graphics
	Core Image	Core Image
	Core Audio	Core Audio
	AVFoundation	AVFoundation
UI	UIKit	UIKit
	AppKit	≠

Frameworks



Foundation	Core Foundation Foundation	Core Foundation Foundation
Persistence	Core Data CloudKit	Core Data CloudKit
Text	Core Text	Core Text
Media	Core Animation Core Graphics	Core Animation Core Graphics
	Core Image	Core Image
	Core Audio	Core Audio
	AVFoundation	AVFoundation
	UIKit	AVFoundation
UI	AppKit \neq	UIKit

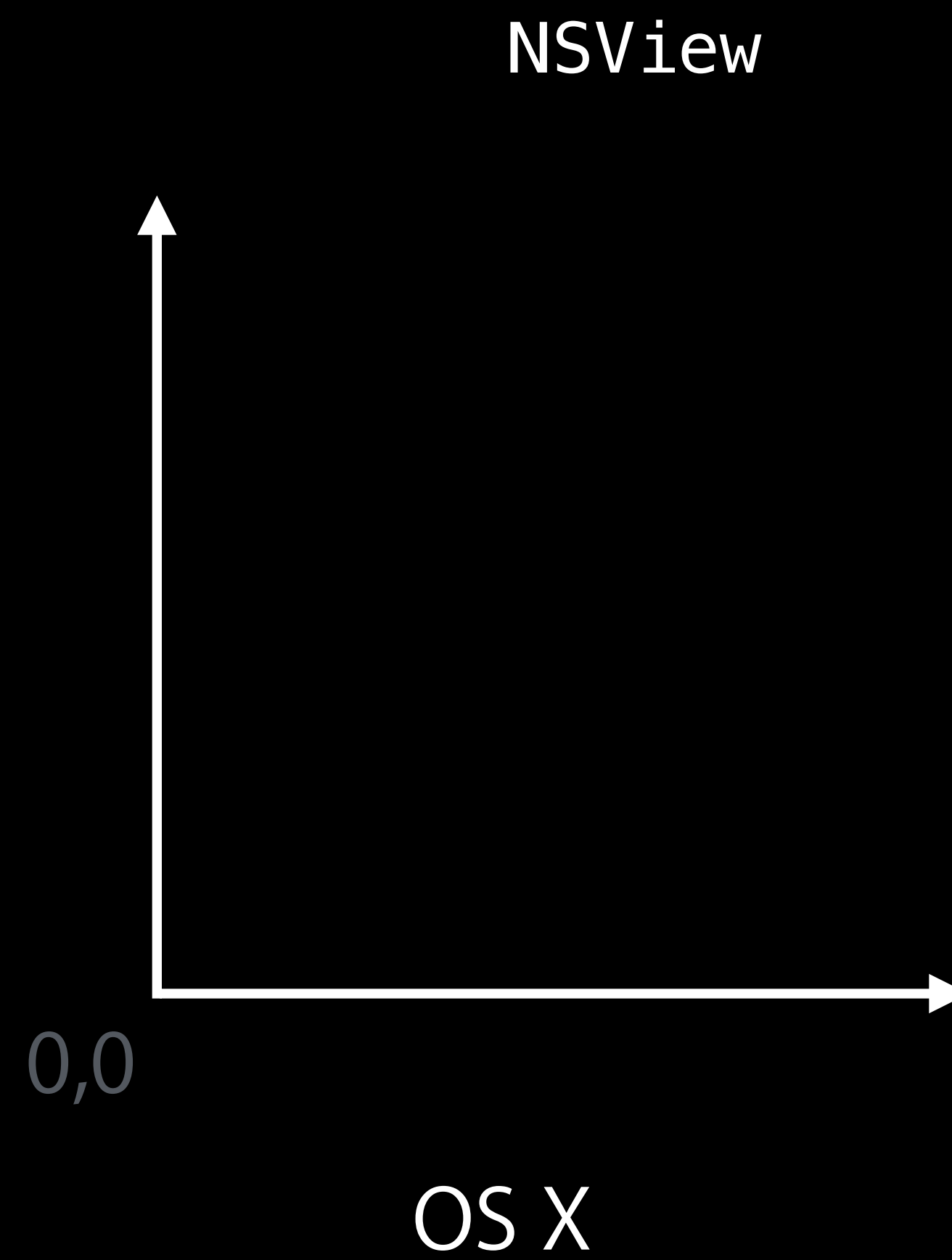
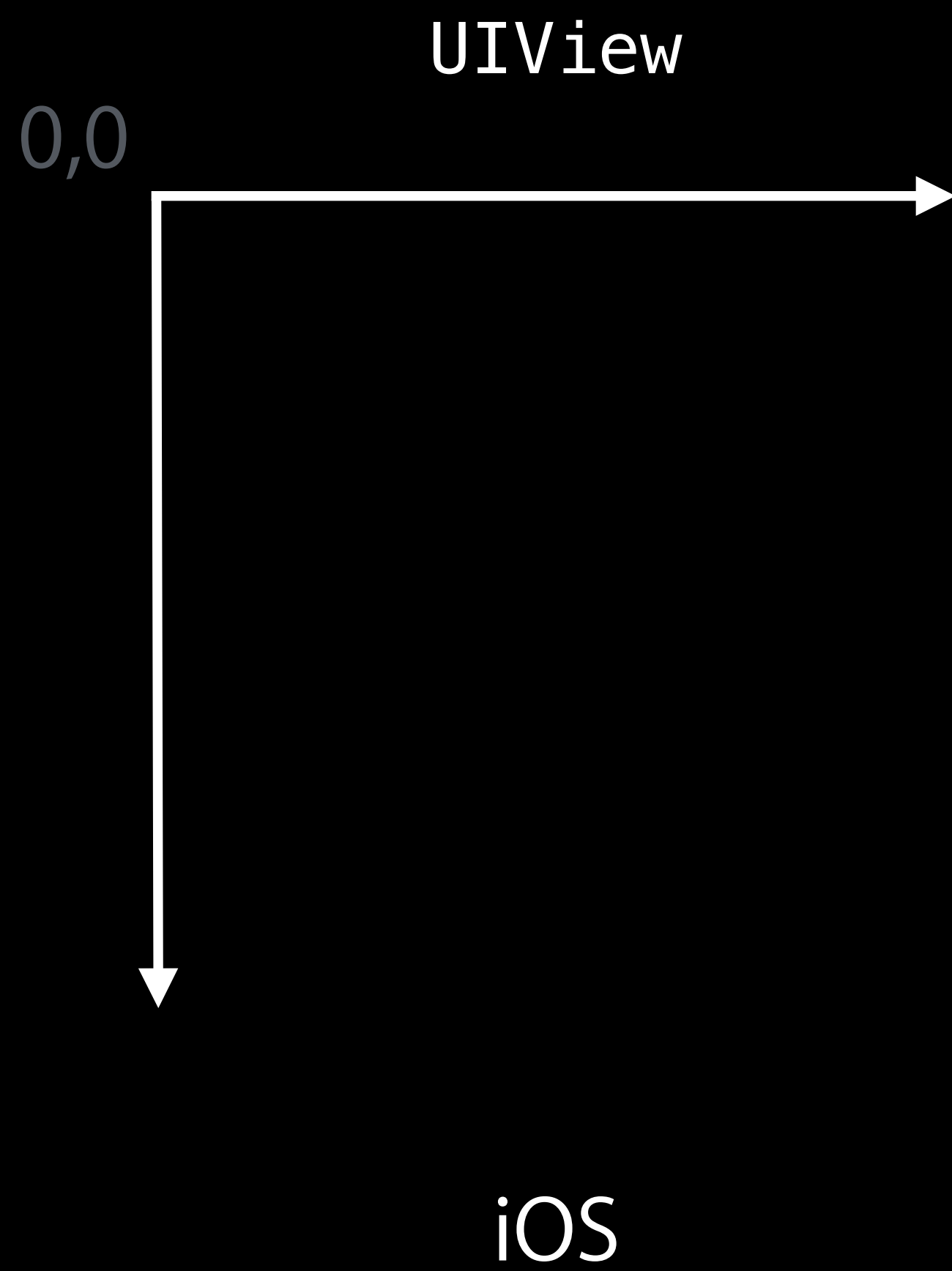
Core Animation



Core Graphics

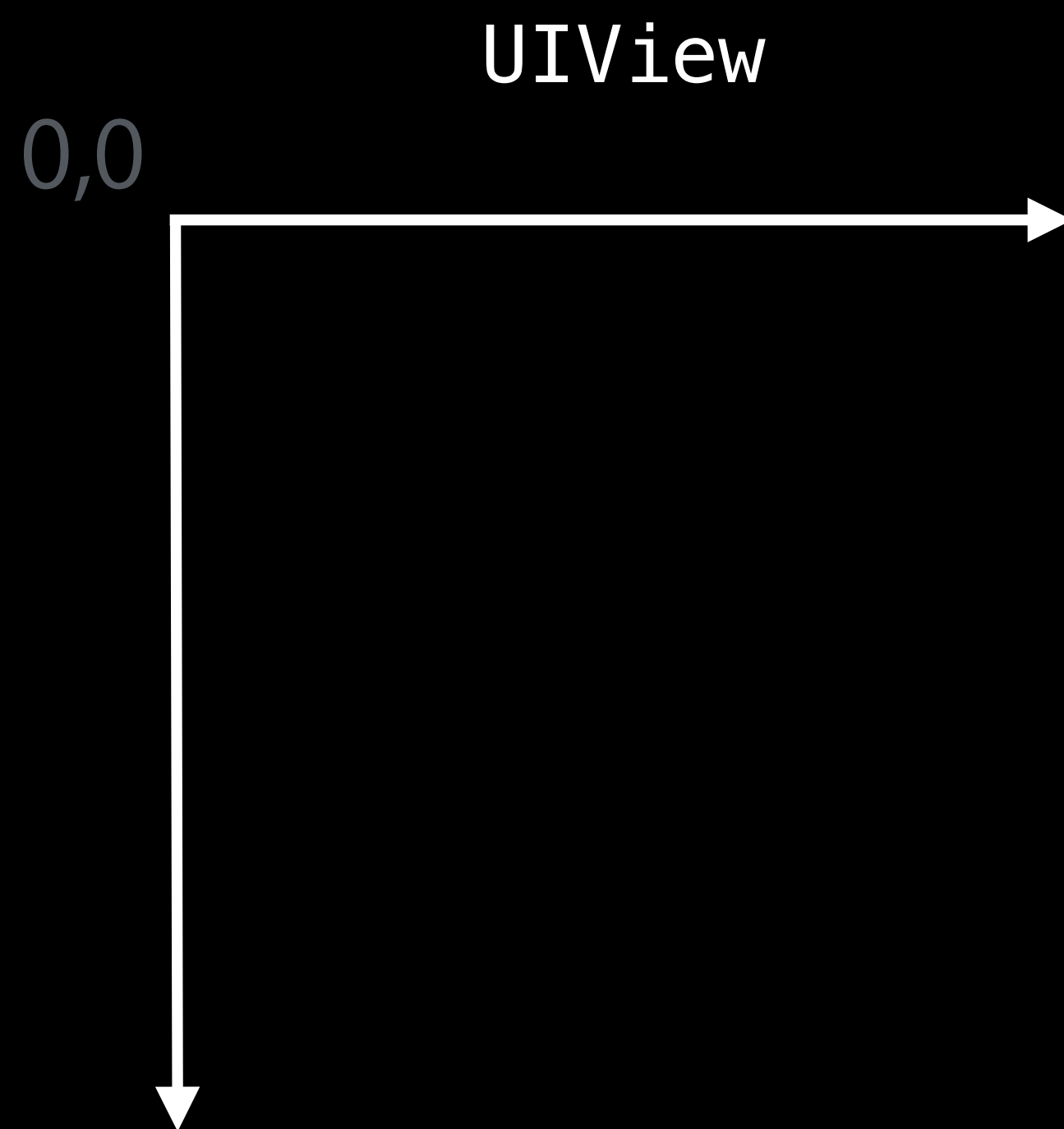


Core Graphics

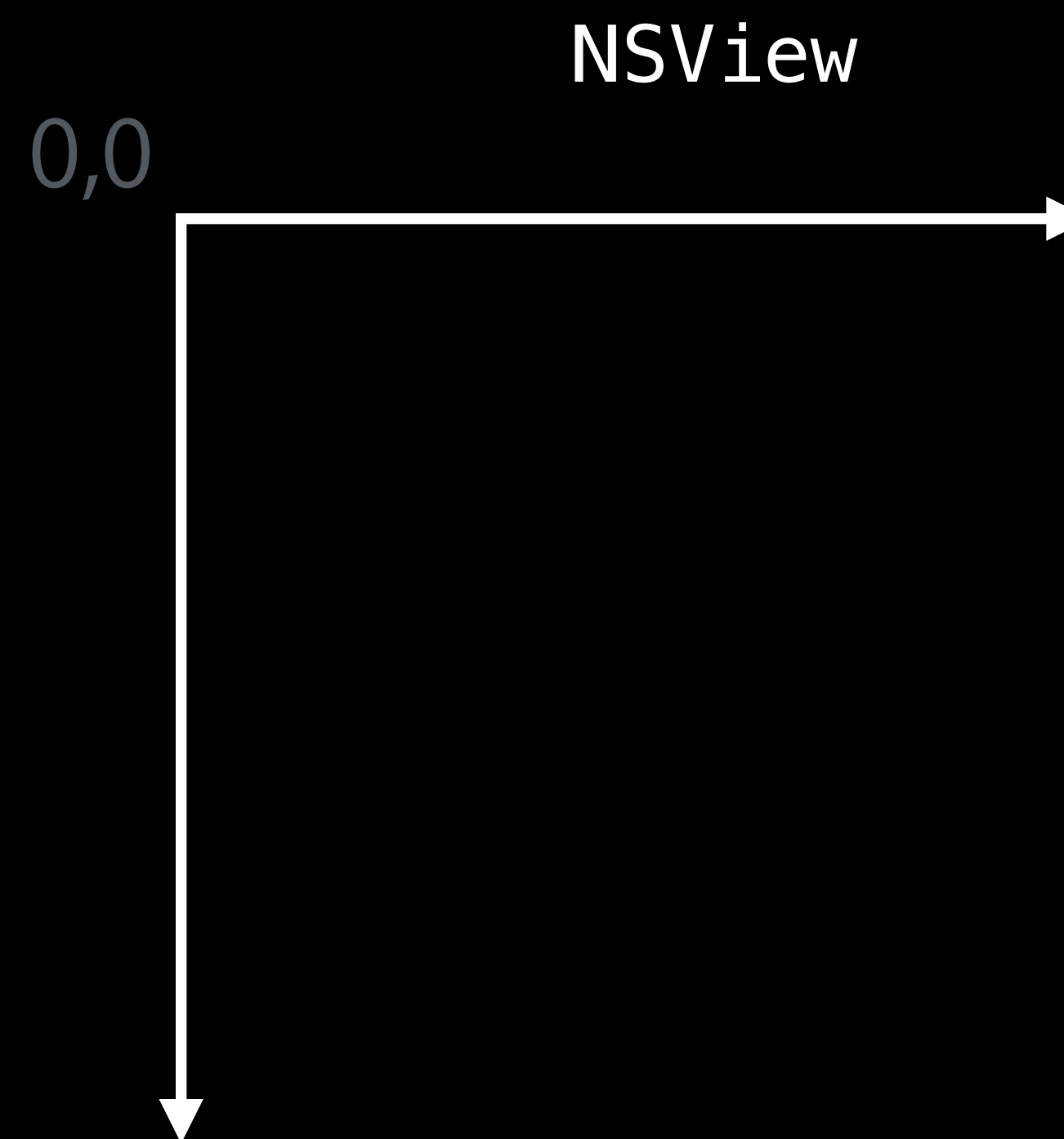


Core Graphics

```
- (BOOL)isFlipped {  
    return YES;  
}
```



iOS



OS X



There's so much to see and do.



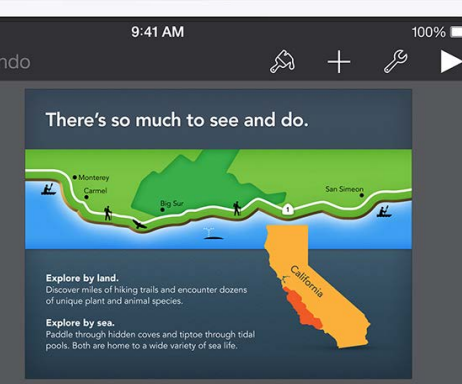
Explore by land.

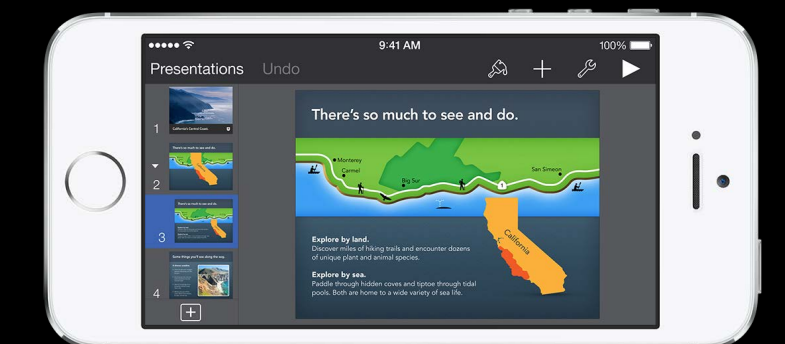
Discover miles of hiking trails and encounter dozens of unique plant and animal species.

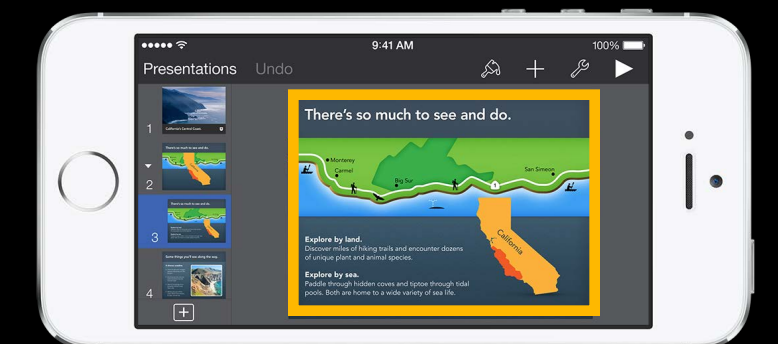
Explore by sea.

Paddle through hidden coves and tiptoe through tidal pools. Both are home to a wide variety of sea life.

There's so much to see and do.







Model View Controller

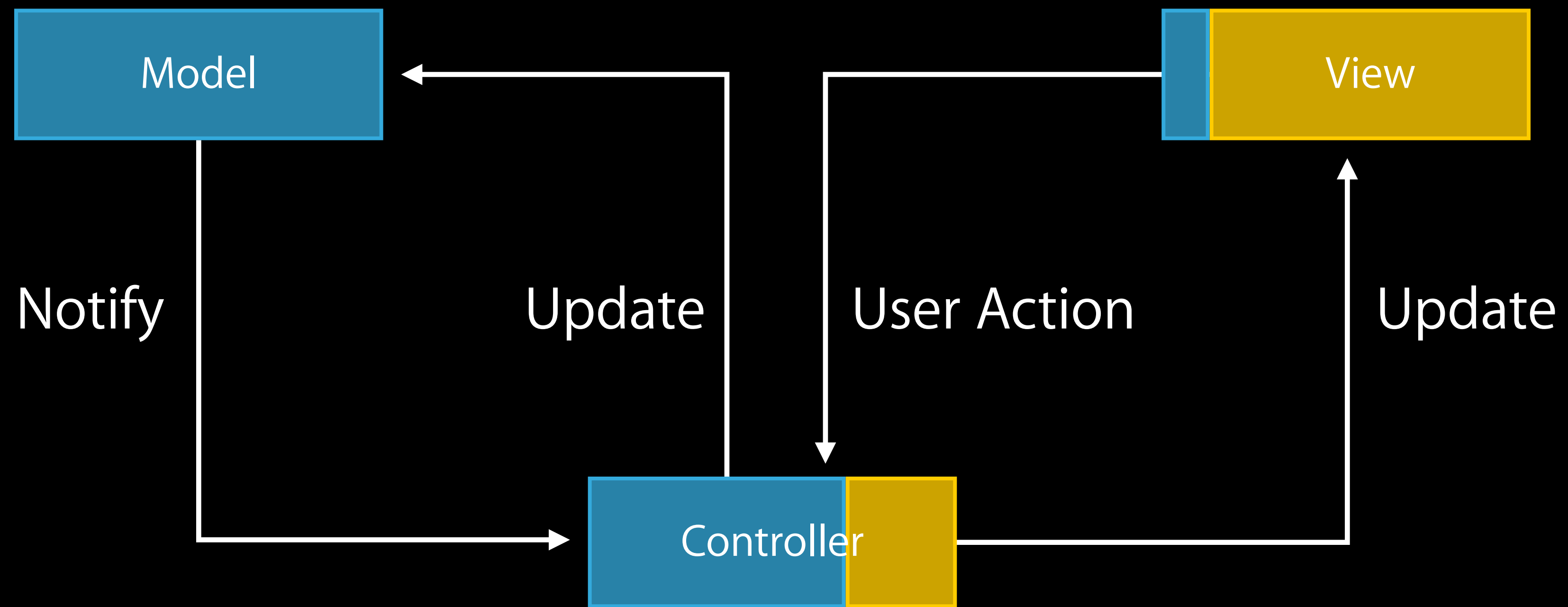
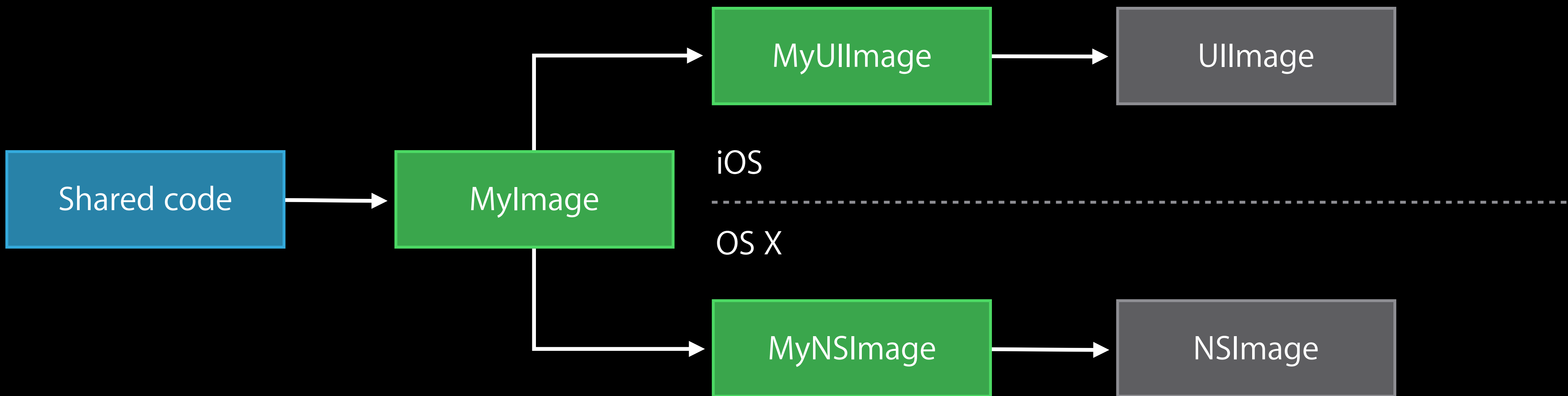


Image Wrapper

Adapt shared interface to platform APIs

Class cluster

Inherits from **NSObject**







Cross-platform Images

Color models



Cross-platform Images

Color models



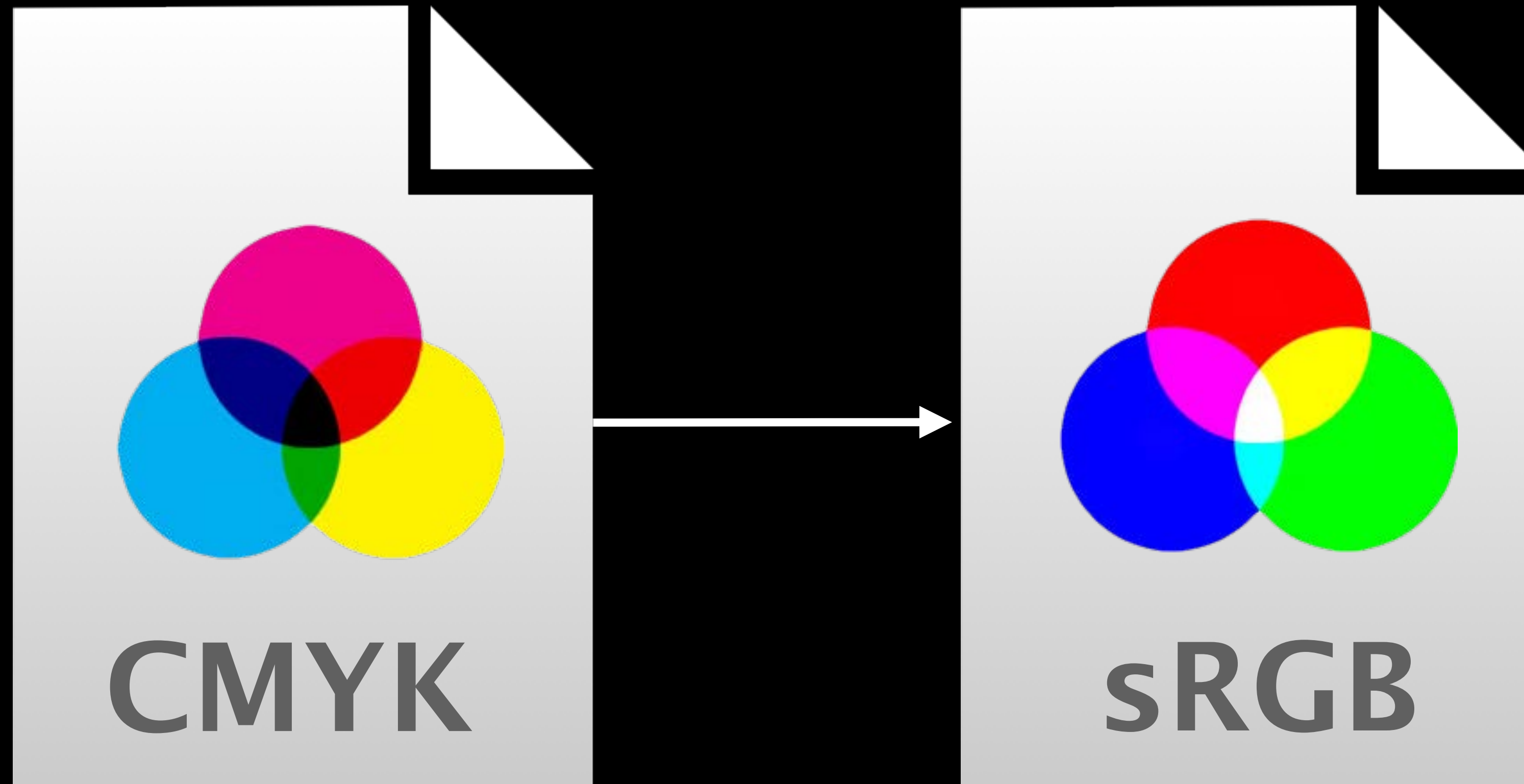
Cross-platform Images

Color models



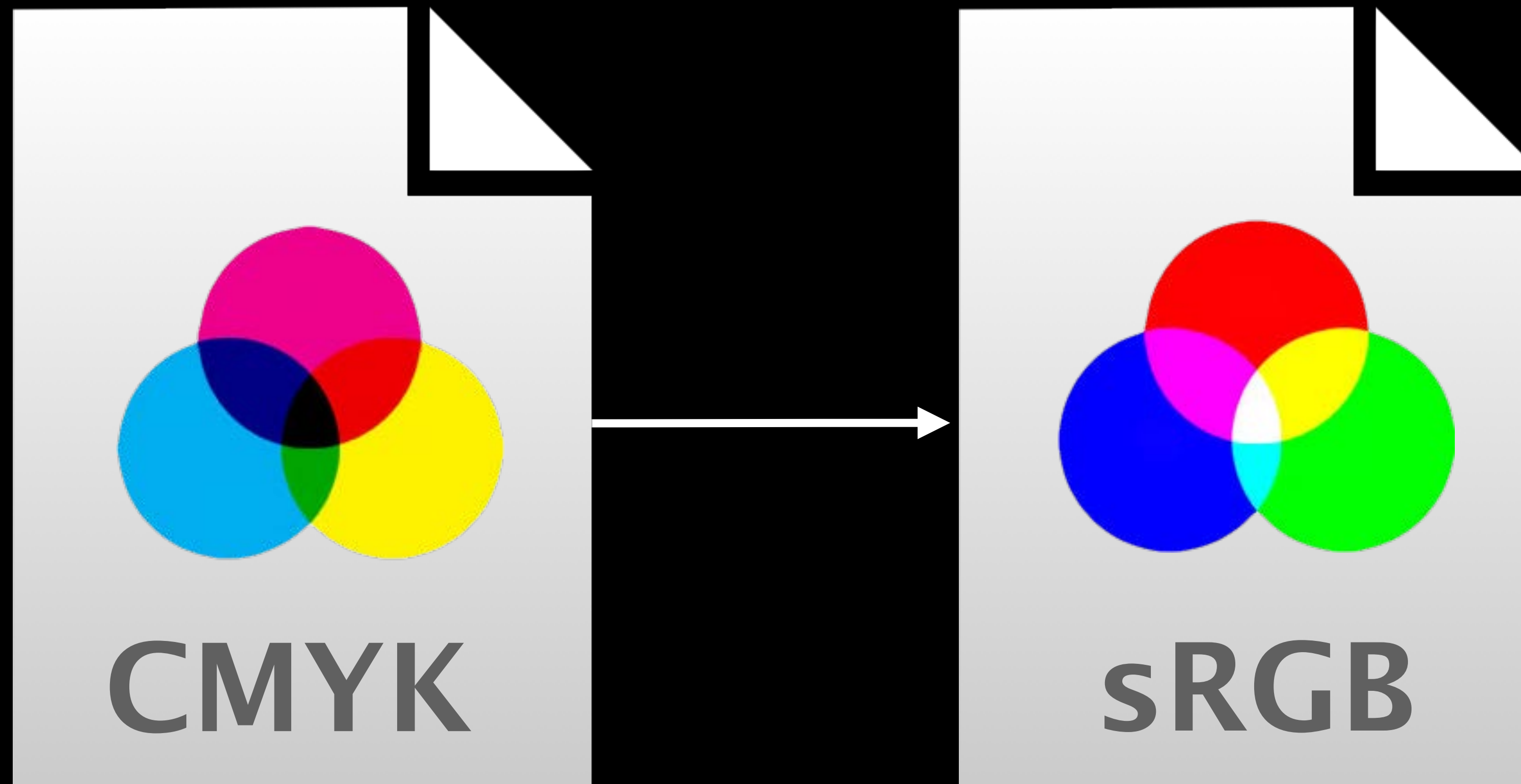
Cross-platform Images

Color models



Cross-platform Images

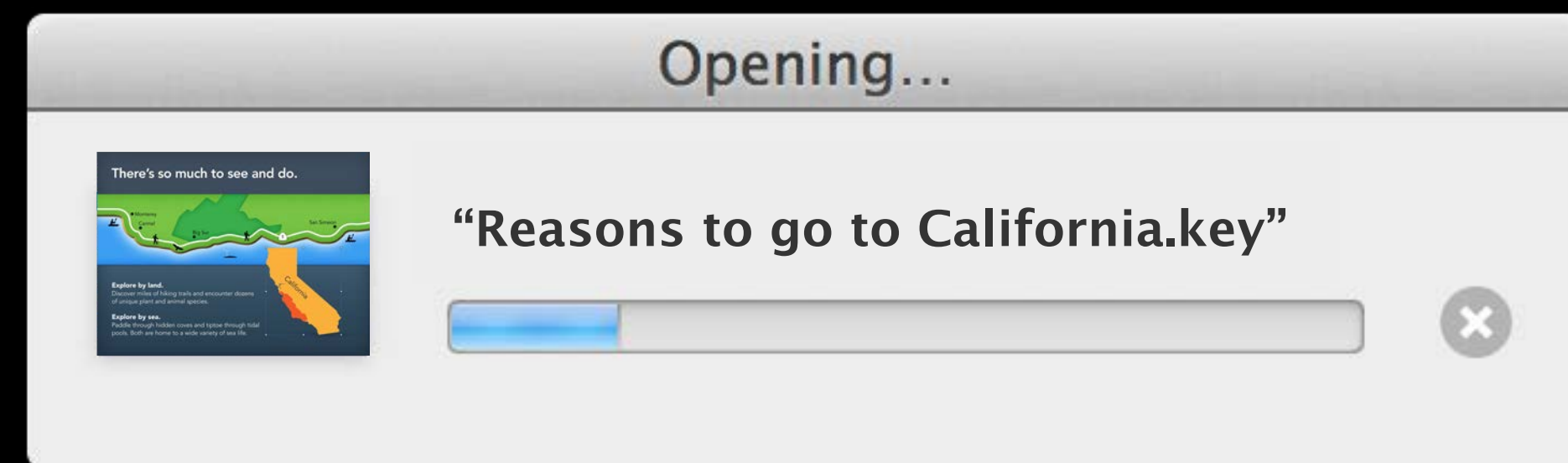
Color models





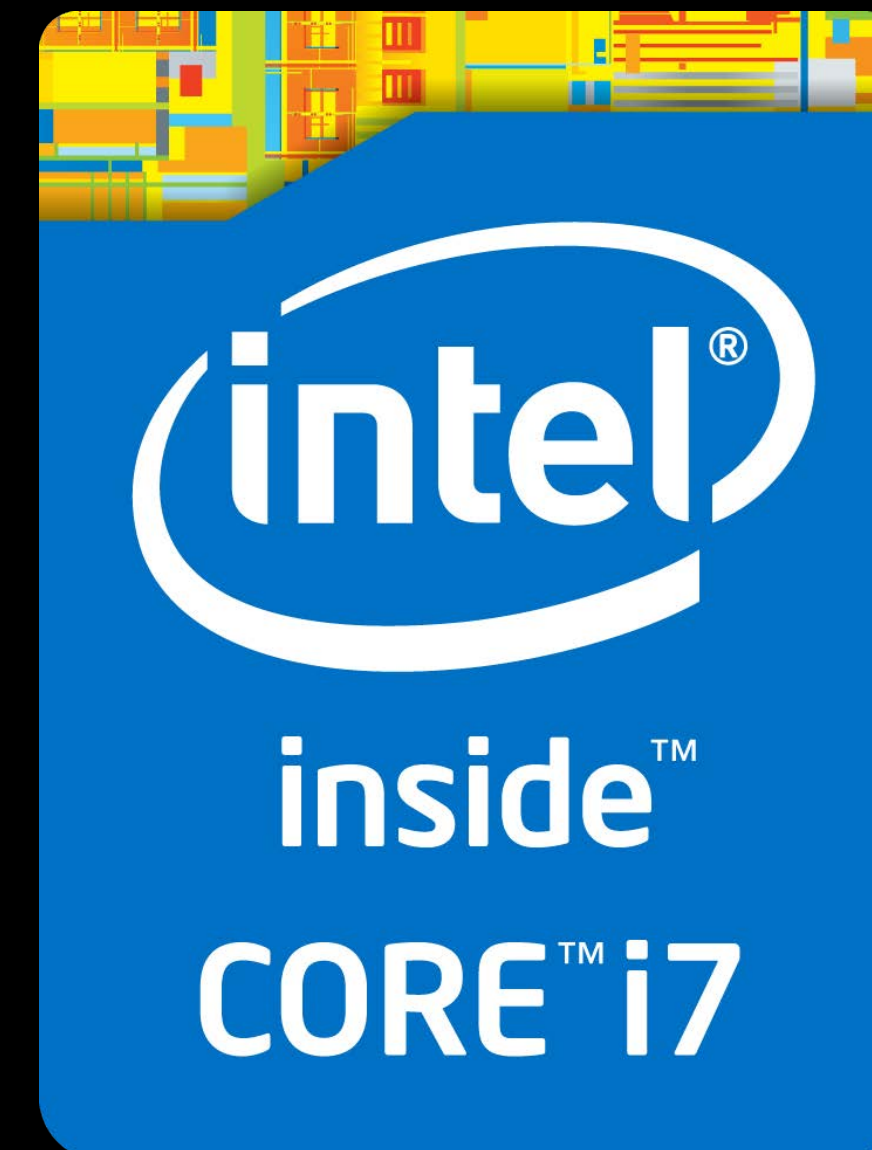
Opening Documents

Performance



Platform Differences

Hardware



Lazily Loaded Model

Sections of model are self-contained

Only load what the user needs

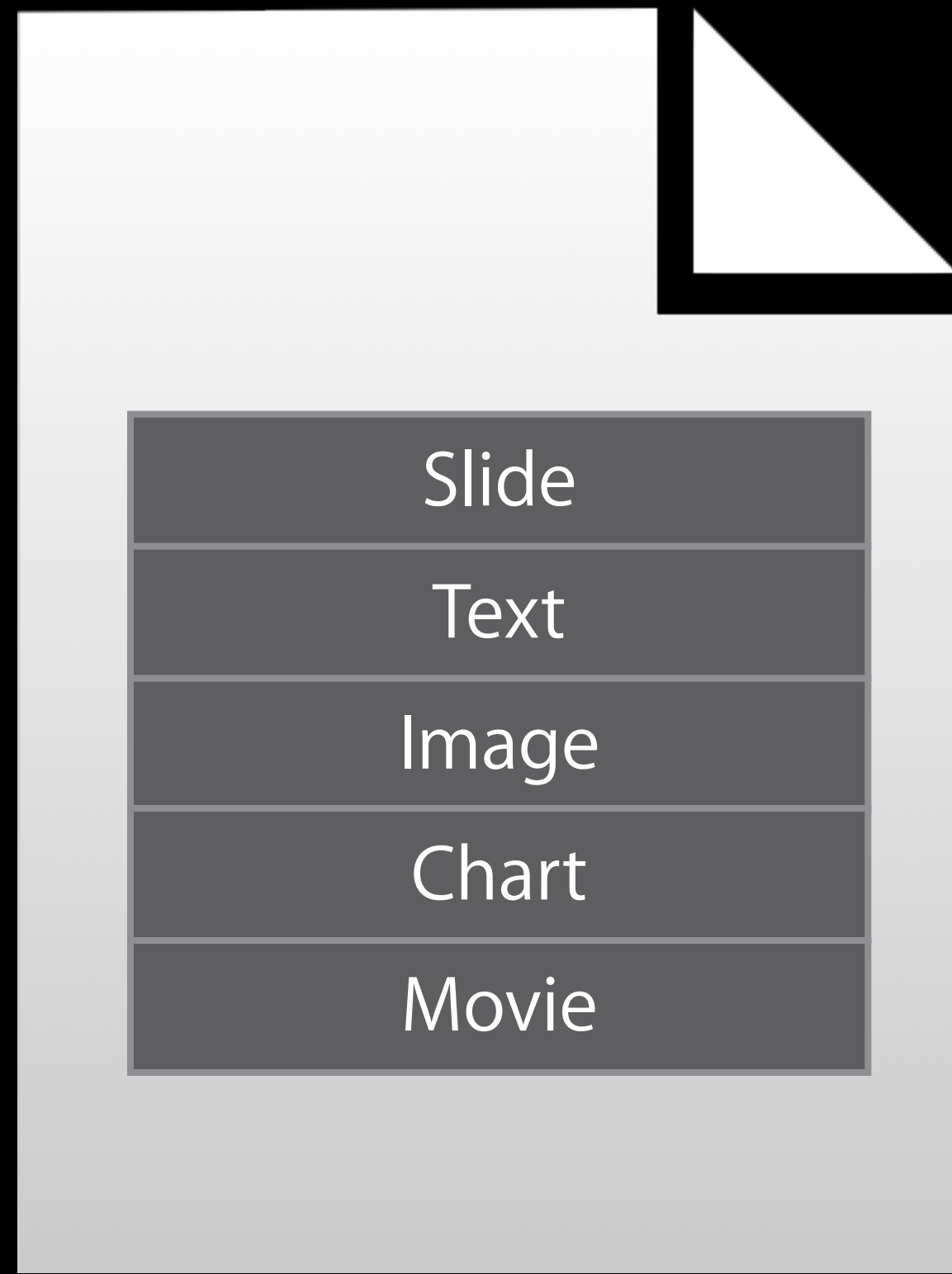
Load in parallel

Faster to open documents

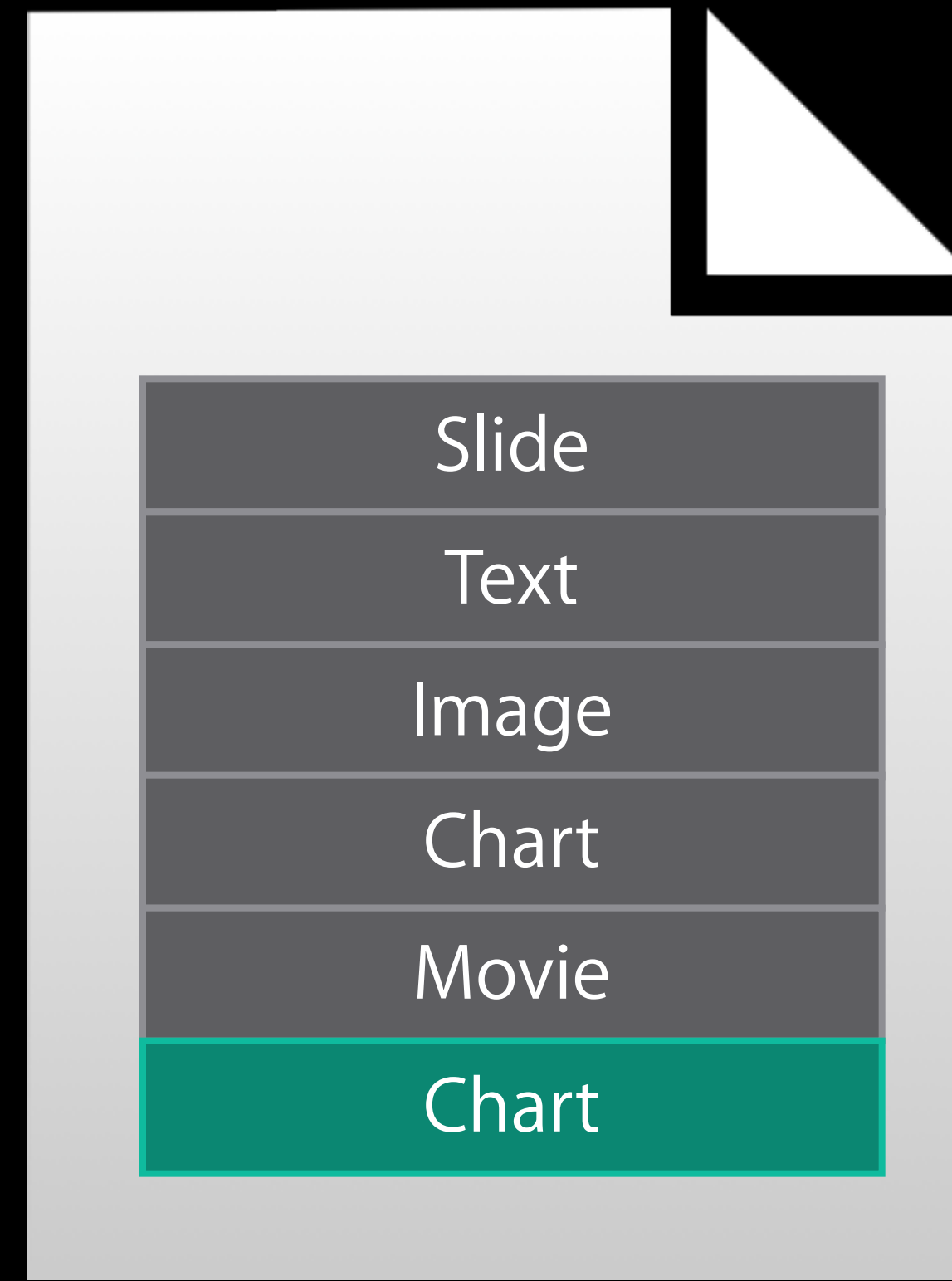




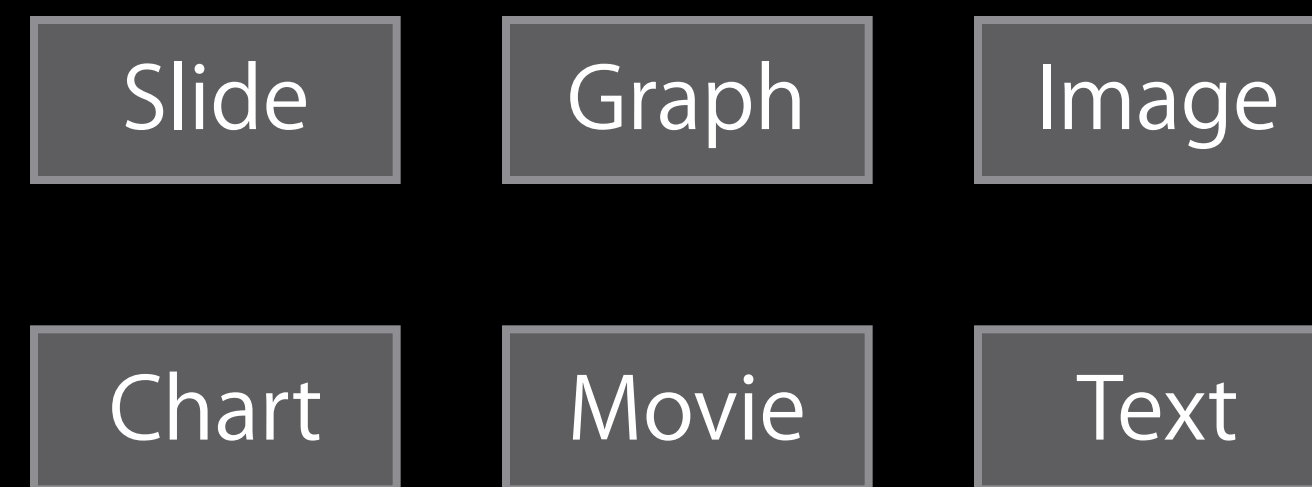
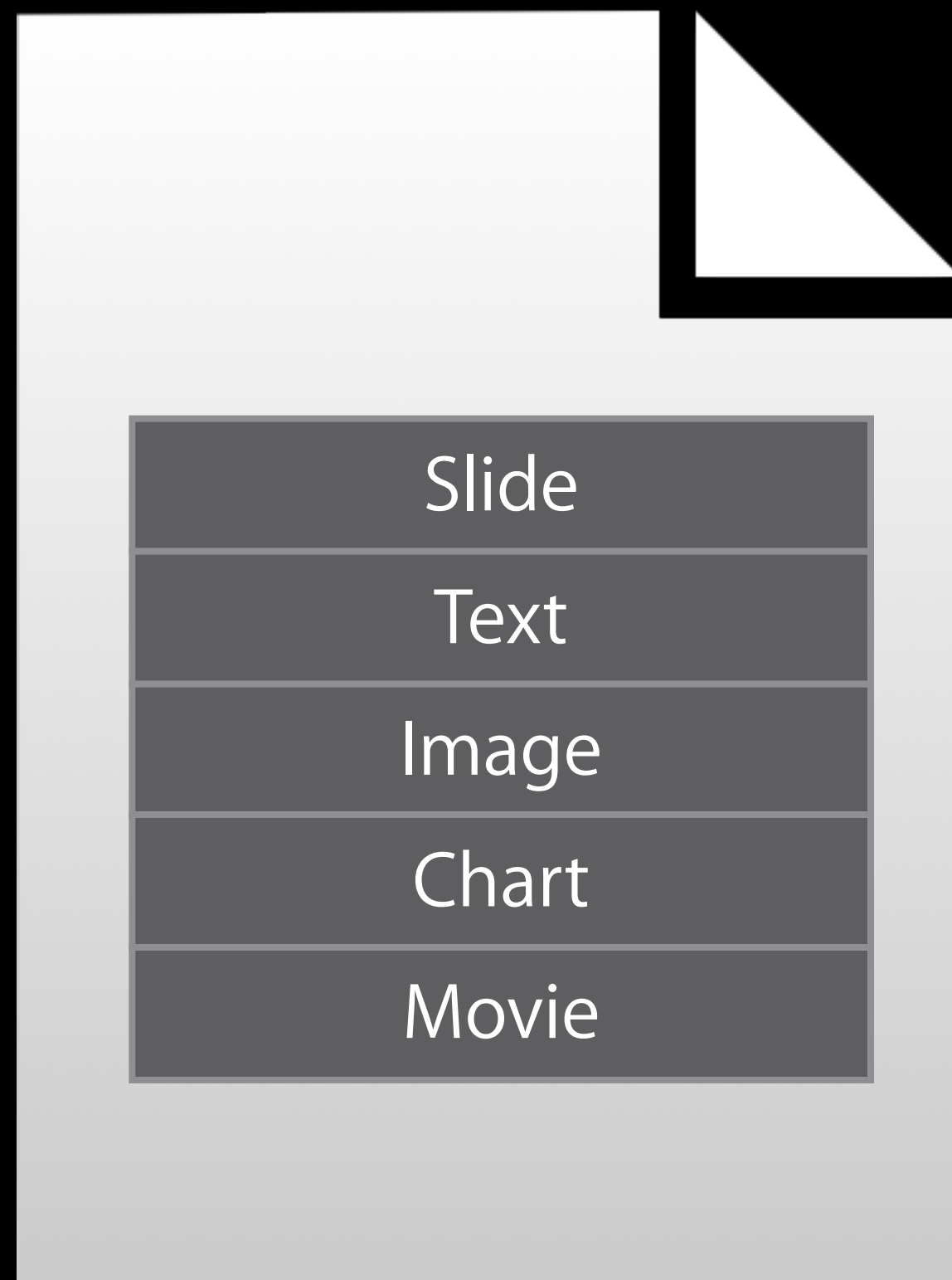
OldDocument.key



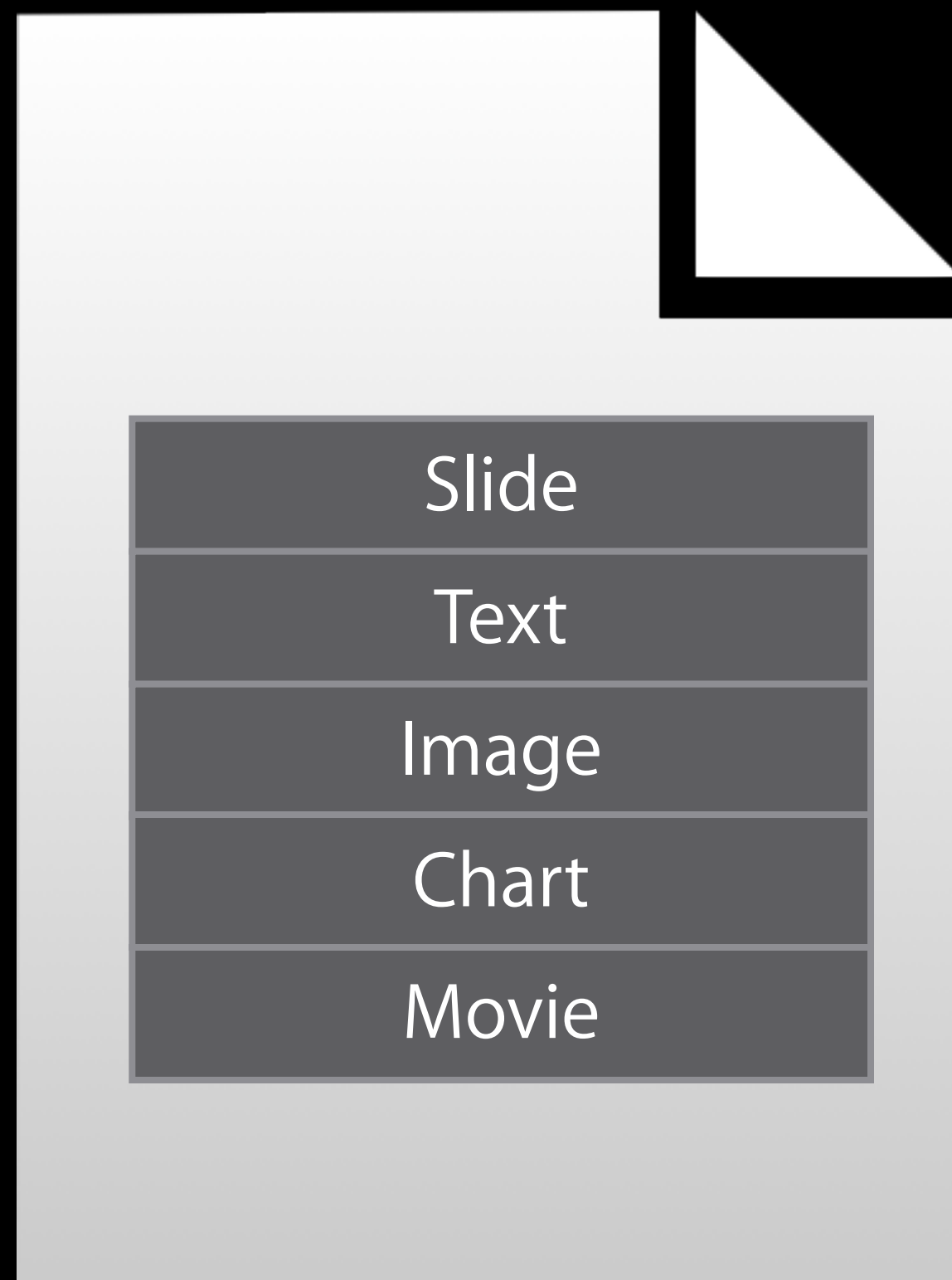
OldDocument.key



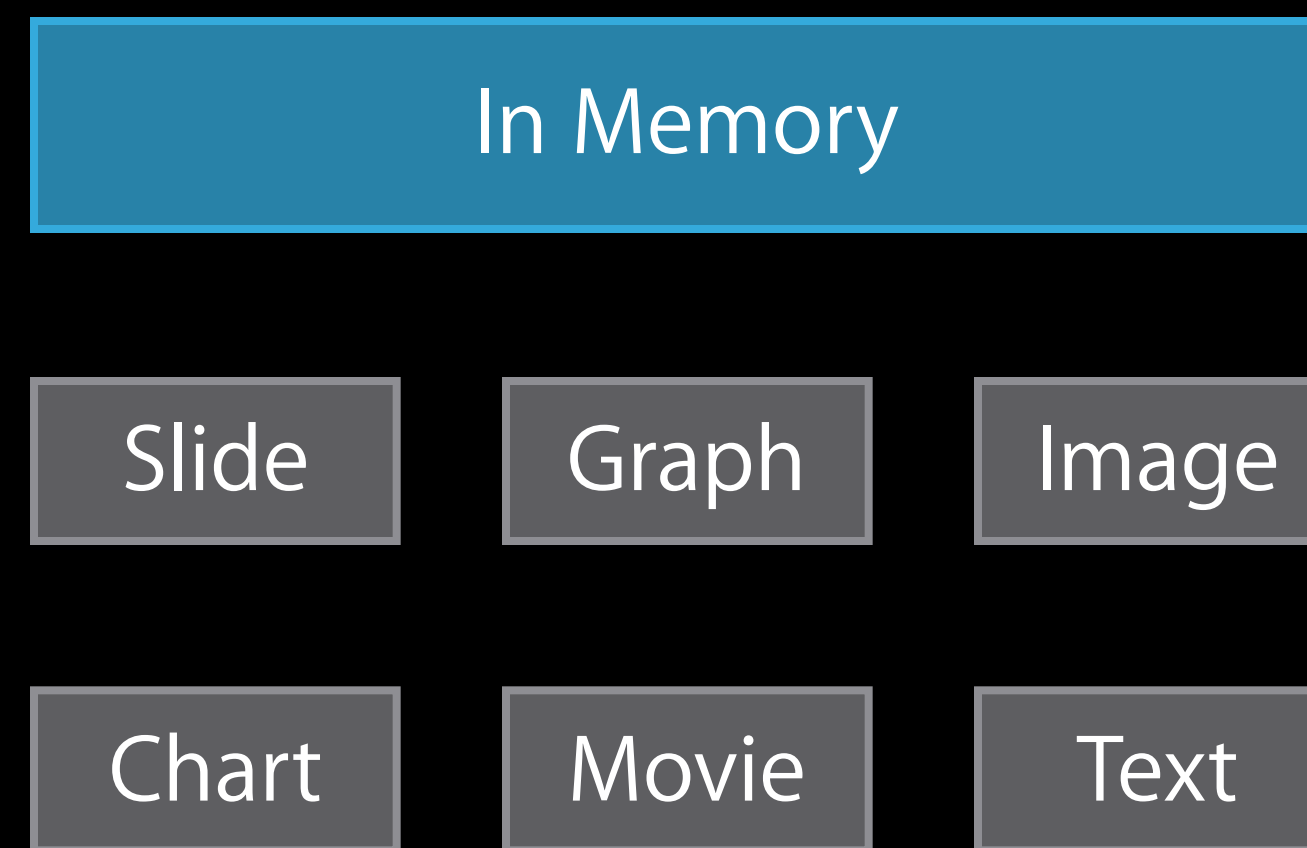
NewDocument.key



Document.key

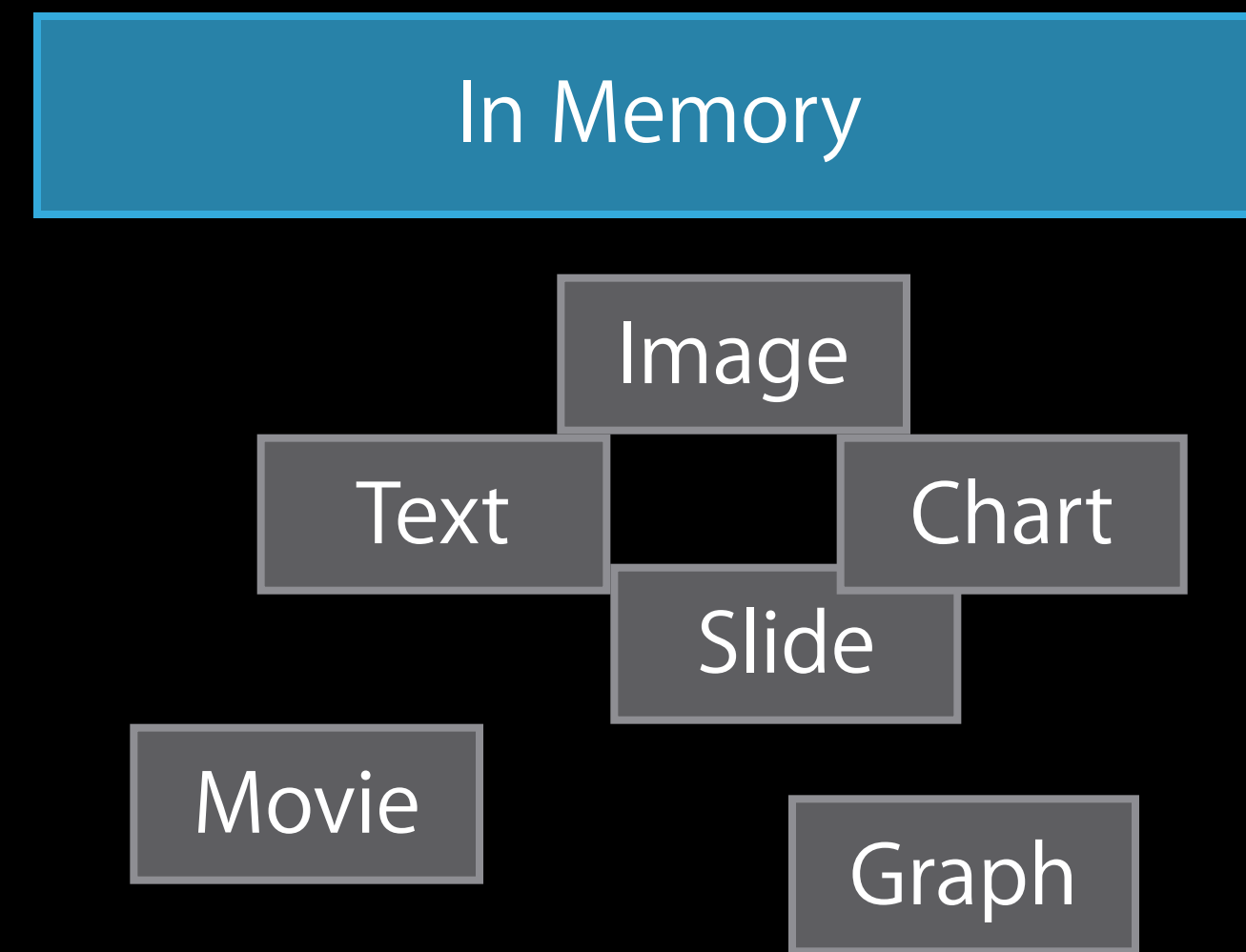


Document.key



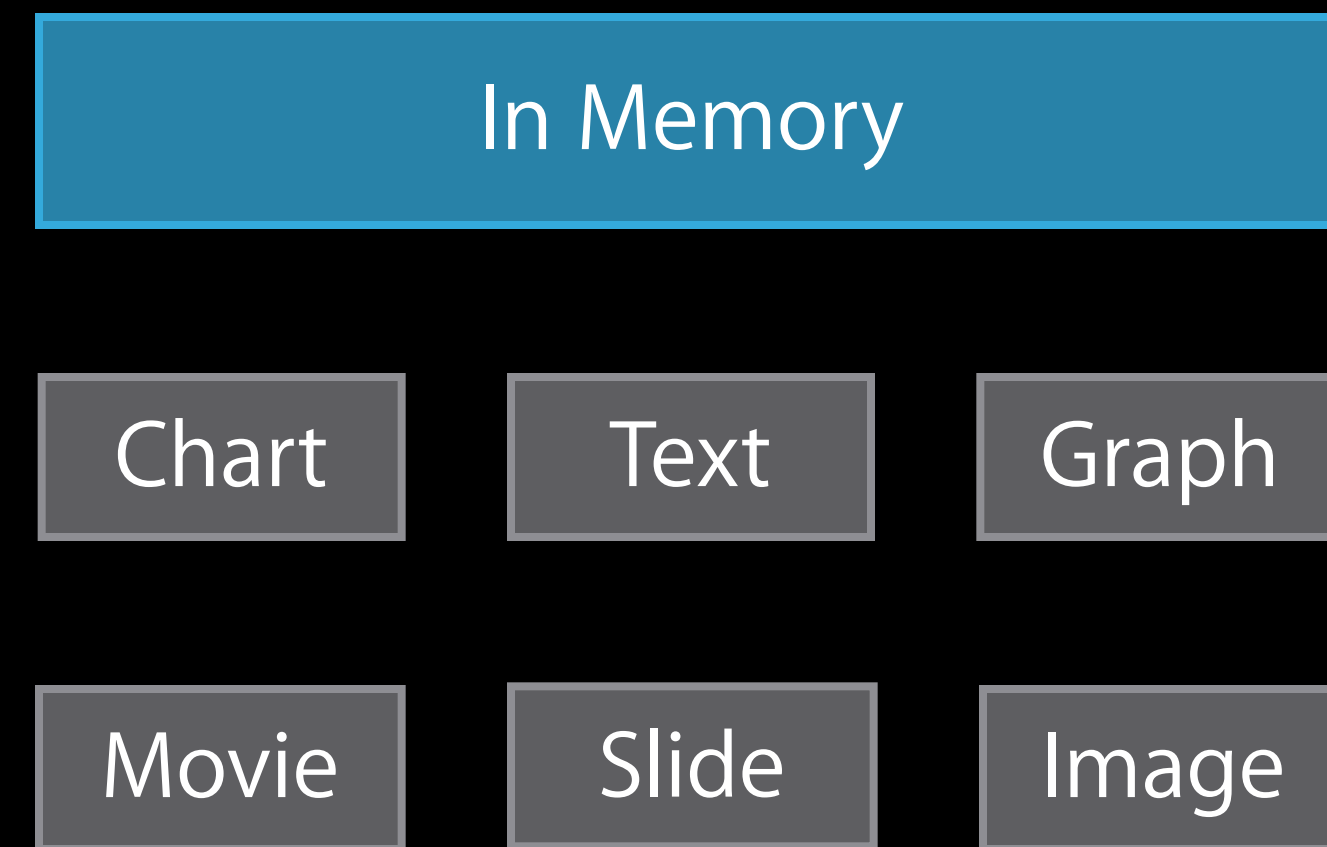


Document.key





Document.key





● Building a Document-based App

Marina

Thursday 11:30AM

How to Split Your Code

Summary

How to Split Your Code

Summary

Look at how code is used

How to Split Your Code

Summary

Look at how code is used

Recognize differences in platforms

How to Split Your Code

Summary

Look at how code is used

Recognize differences in platforms

Consider using shared frameworks

How to Split Your Code

Summary

Look at how code is used

Recognize differences in platforms

Consider using shared frameworks

Investigate design patterns

- Model View Controller

How to Split Your Code

Summary

Look at how code is used

Recognize differences in platforms

Consider using shared frameworks

Investigate design patterns

- Model View Controller
- Wrappers

No Silver Bullet

No Silver Bullet

iWork apps aren't your apps

No Silver Bullet

iWork apps aren't your apps

Works for us \neq works for you

No Silver Bullet

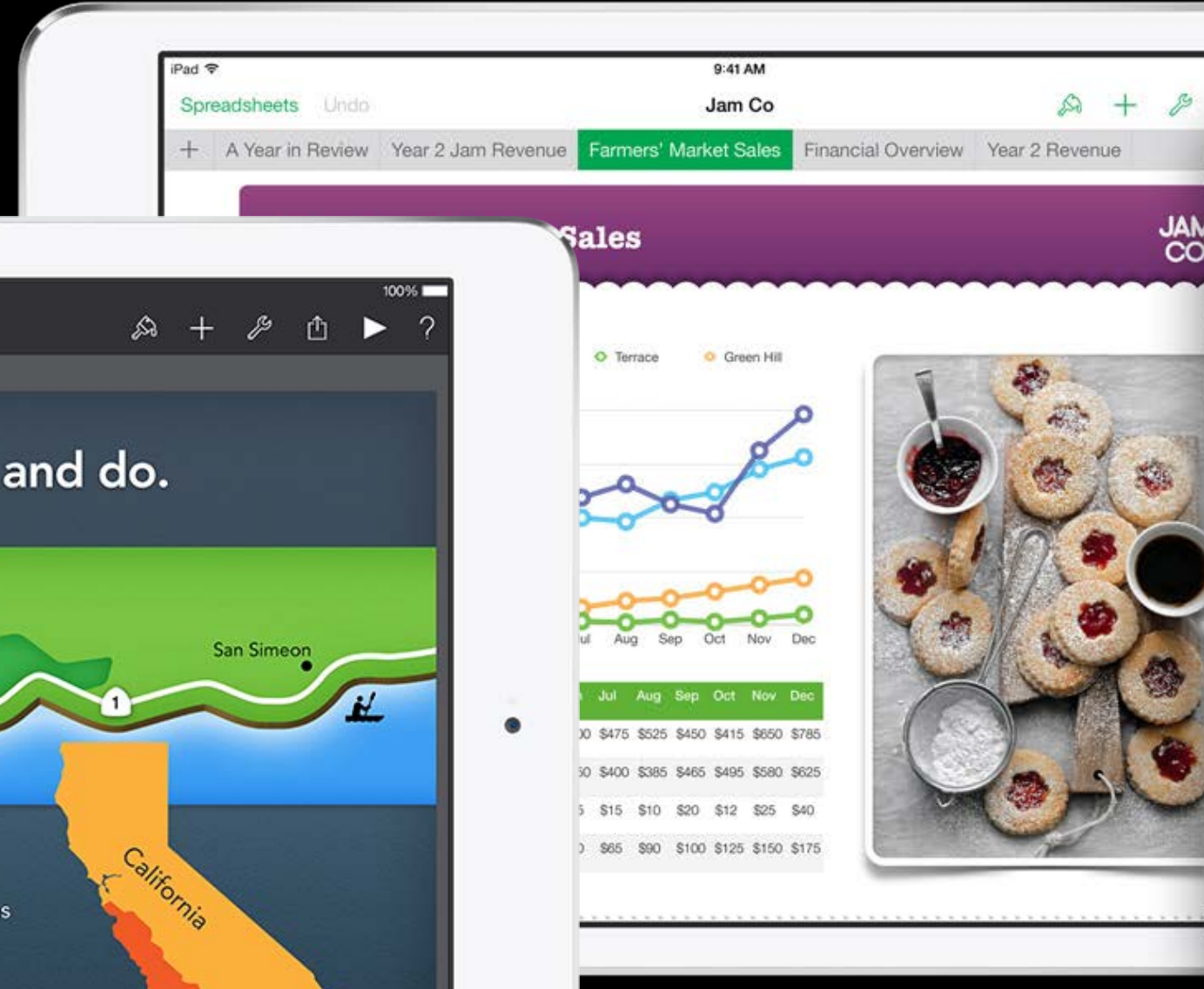
iWork apps aren't your apps

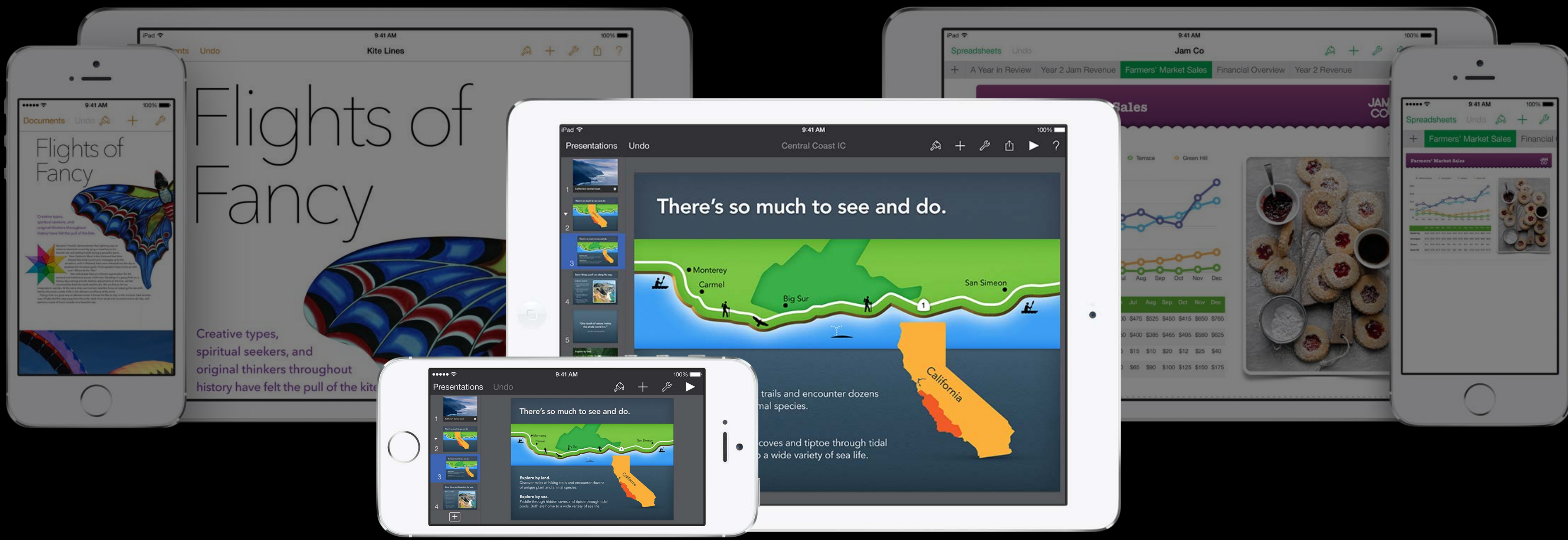
Works for us \neq works for you

Universal concepts, not universal solutions

Cross-platform Projects in Xcode

Chris Cowdery-Corvan
iWork Software Engineer





Flights of Fancy

Creative types, spiritual seekers, and original thinkers throughout history have felt the pull of the kite

There's so much to see and do.

Central Coast IC

Monterey Carmel Big Sur San Simeon

California

trails and encounter dozens of native species.

explores and tiptoe through tidal pools to a wide variety of sea life.

Explore by land. Discover miles of hiking trails and encounter dozens of unique plants and animal species.

Explore by sea. Paddle through hidden coves and forage through tidal pools. Both are home to a wide variety of sea life.

Jam Co

Farmers' Market Sales

Month	Terrace	Green Hill
Jul	\$475	\$325
Aug	\$400	\$385
Sep	\$450	\$465
Oct	\$415	\$580
Nov	\$650	\$825
Dec	\$785	\$825

Financial Overview

Year 2 Revenue

Year 2 Jam Revenue

Farmers' Market Sales

A Year in Review

Financial



Keynote iOS



Keynote iOS



Keynote Mac

Targets



Targets

Defines a single product to build



Targets

Defines a single product to build
Organizes inputs into build system



Targets

Defines a single product to build
Organizes inputs into build system
Owned by projects



iWork | Build Keynote iOS: **Succeeded** | Today at 7:39 PM

Keynote

2 targets, iOS SDK 8.0

- Keynote iOS
- Keynote iOS Tests
- Frameworks
- Products

Pages

2 targets, iOS SDK 8.0

Numbers

2 targets, iOS SDK 8.0

General Capabilities Info Build Settings Build Phases Build Rules

PROJECT

- Keynote

TARGETS

- Keynote iOS
- Keynote iOS Tests

Identity

Bundle Identifier: com.apple.Keynote-iOS

Version: 2.2.1

Build: 1264

Team: None

Deployment Info

Deployment Target: 8.0

Devices: Universal

iPhone iPad

Main Interface: Main_iPhone

Device Orientation

- Portrait
- Upside Down
- Landscape Left
- Landscape Right

Status Bar Style: Default

Hide status bar

iWork | Build Keynote iOS: **Succeeded** | Today at 7:39 PM

Keynote

2 targets, iOS SDK 8.0

- Keynote iOS
- Keynote iOS Tests
- Frameworks
- Products

Pages
2 targets, iOS SDK 8.0

Numbers
2 targets, iOS SDK 8.0

General Capabilities Info Build Settings Build Phases Build Rules

PROJECT

- Keynote

TARGETS

- Keynote iOS
- Keynote iOS Tests

Identity

Bundle Identifier: com.apple.Keynote-iOS

Version: 2.2.1

Build: 1264

Team: None

Deployment Info

Deployment Target: 8.0

Devices: Universal

iPhone iPad

Main Interface: Main_iPhone

Device Orientation

- Portrait
- Upside Down
- Landscape Left
- Landscape Right

Status Bar Style: Default

Hide status bar

iWork | Build Keynote iOS: **Succeeded** | Today at 7:39 PM

Keynote
2 targets, iOS SDK 8.0

- Keynote iOS
- Keynote iOS Tests
- Frameworks
- Products

Pages
2 targets, iOS SDK 8.0

Numbers
2 targets, iOS SDK 8.0

General Capabilities Info Build Settings Build Phases Build Rules

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS Tests

Identity

Bundle Identifier: com.apple.Keynote-iOS

Version: 2.2.1

Build: 1264

Team: None

Deployment Info

Deployment Target: 8.0

Devices: Universal

iPhone iPad

Main Interface: Main_iPhone

Device Orientation:
 Portrait
 Upside Down
 Landscape Left
 Landscape Right

Status Bar Style: Default
 Hide status bar

iWork | Build Keynote iOS: **Succeeded** | Today at 7:39 PM

Choose a template for your new target:

- iOS
 - Application
 - Framework & Library
 - Application Extension
 - Other
- OS X
 - Application
 - Framework & Library
 - Application Extension
 - System Plug-in
 - Other

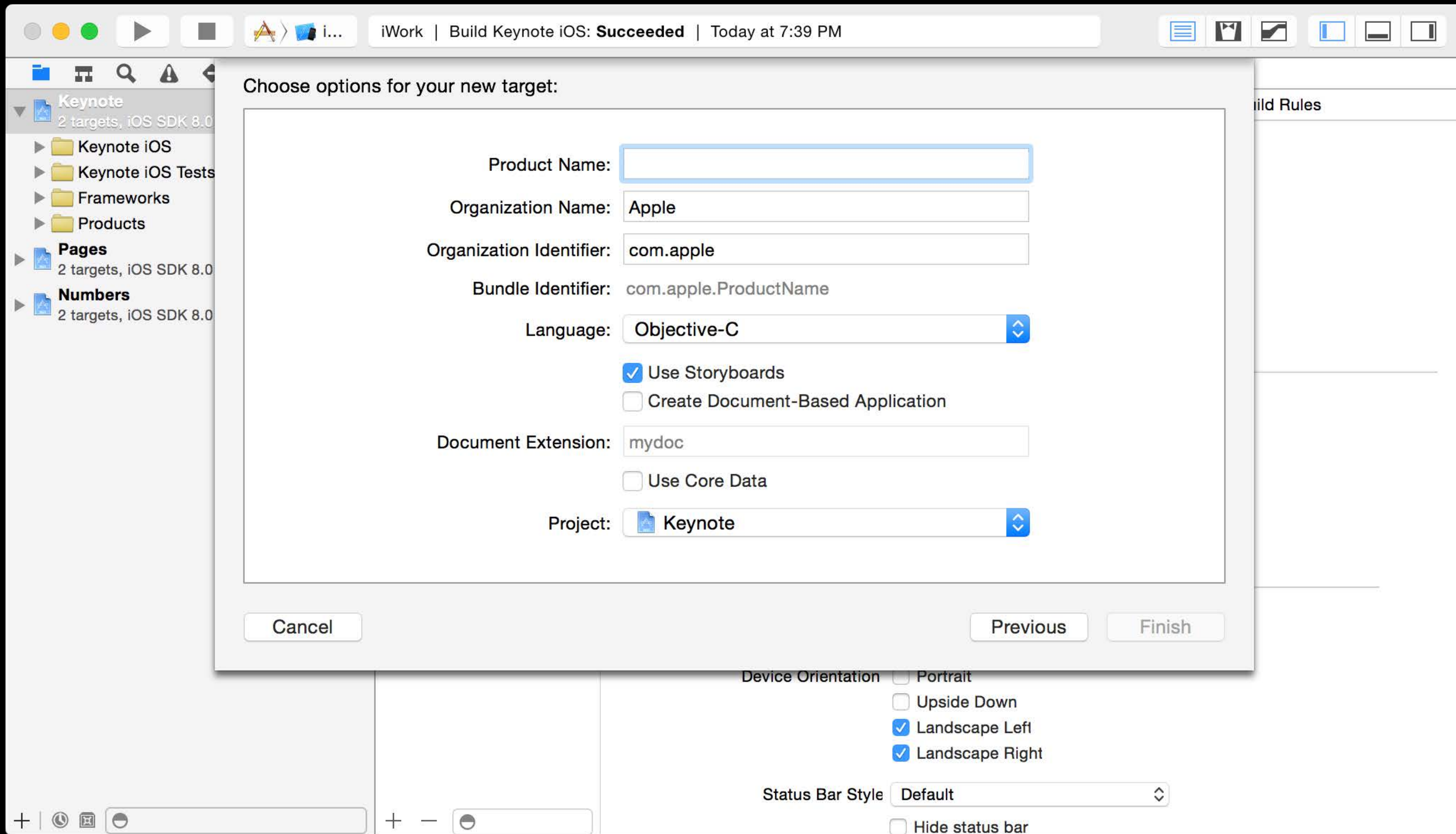
Cocoa Application Game Command Line Tool

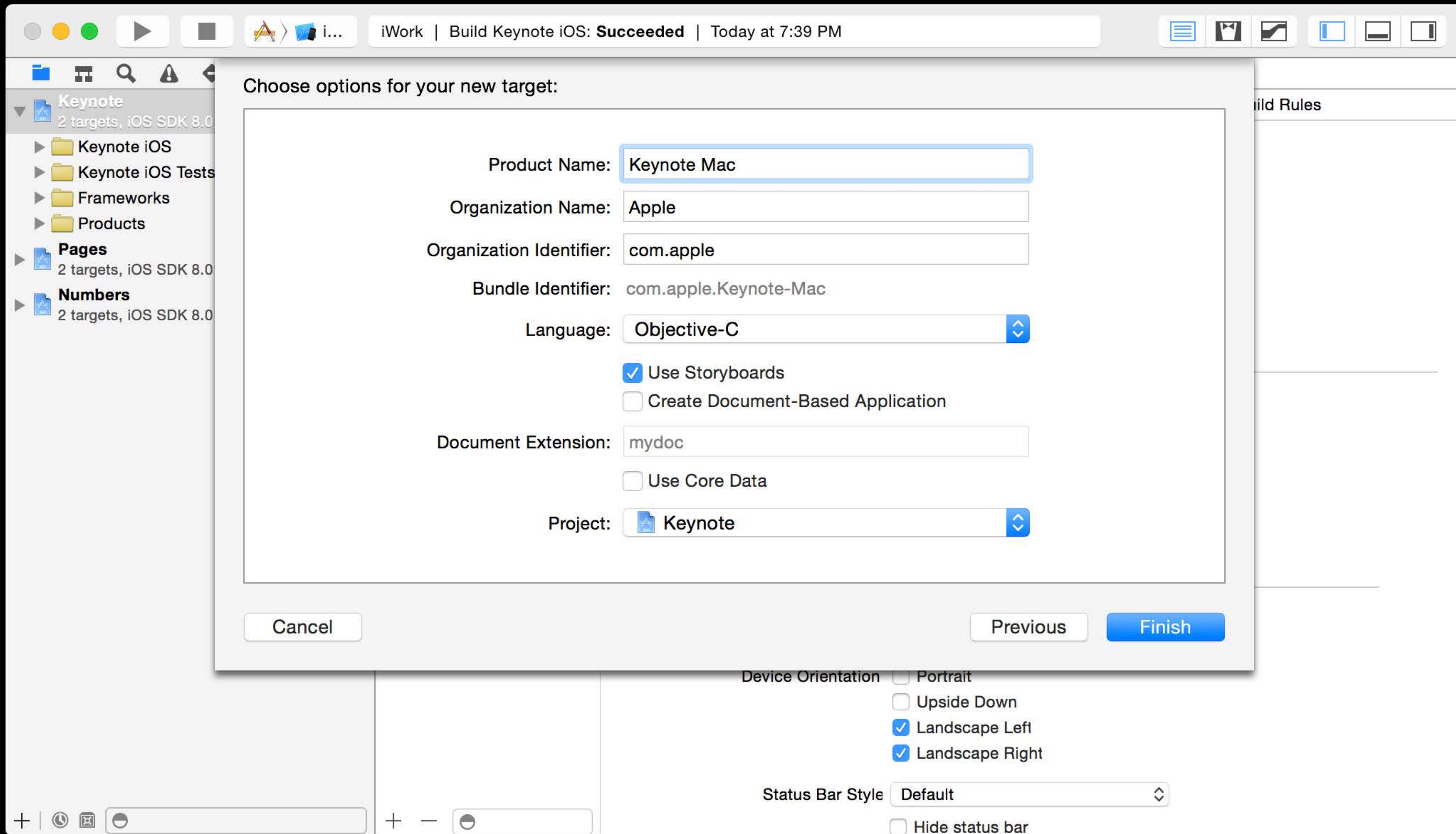
Cocoa Application
This template creates a Cocoa application for the OS X platform.

Cancel Previous Next

Device Orientation Portrait
 Upside Down
 Landscape Left
 Landscape Right

Status Bar Style Default ▾
 Hide status bar





iWork | Build Keynote iOS: **Succeeded** | Today at 7:39 PM

Keynote

4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
- Keynote Mac Tests
- Frameworks
- Products

Pages
2 targets, iOS SDK 8.0

Numbers
2 targets, iOS SDK 8.0

General Capabilities Info Build Settings Build Phases Build Rules

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS Tests
Keynote Mac
Keynote MacTests

Identity

Application Category: None

Bundle Identifier: com.apple.Keynote-Mac

Version: 1.0

Build: 1

Signing: Mac App Store
 Developer ID
 None

Team: None

Deployment Info

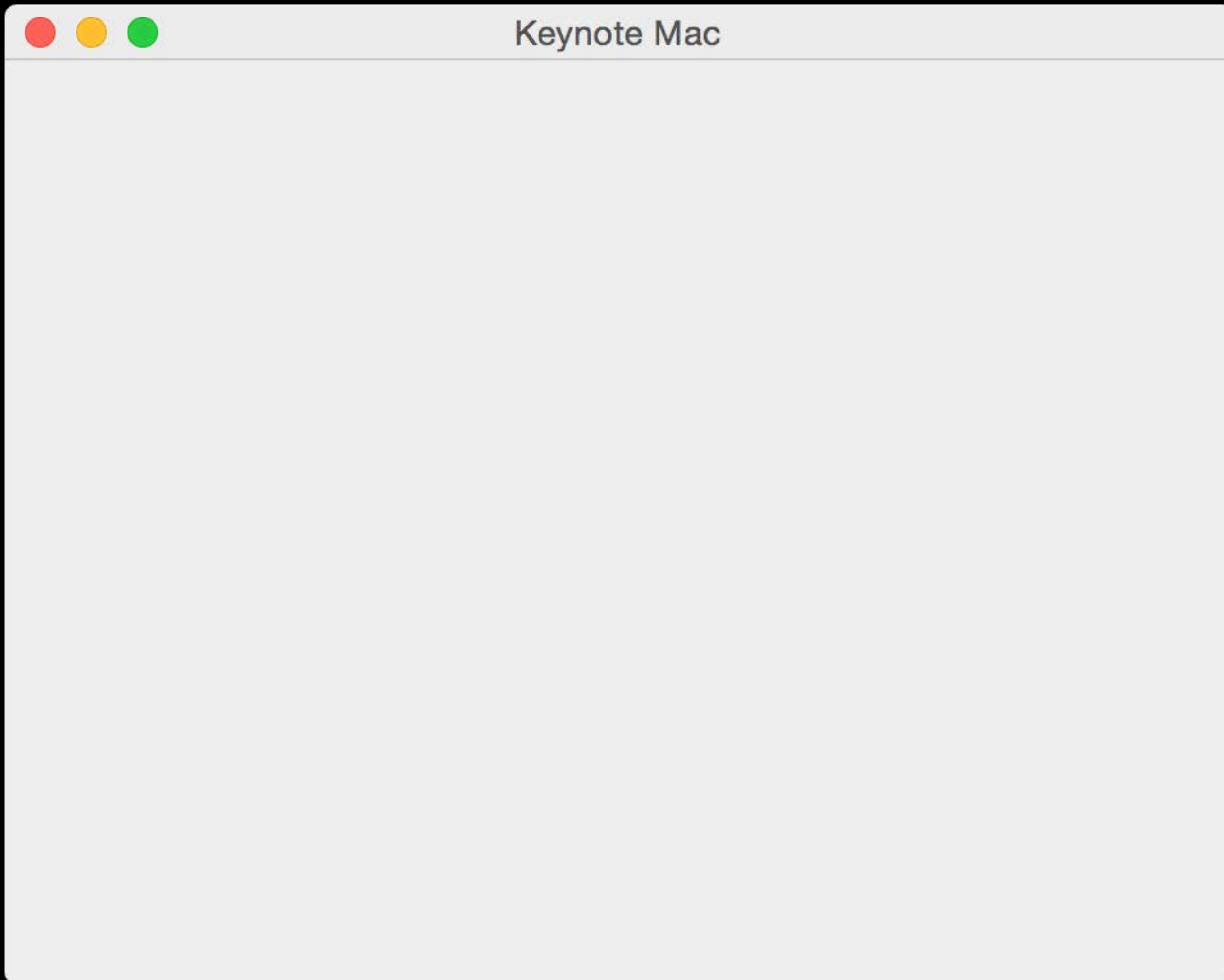
Deployment Target: 10.10

Main Interface: Main

App Icons

Source: AppIcon

Embedded Binaries





Canvas



Persistence



Common Utilities



Canvas



Persistence



Common Utilities



Canvas



Persistence



Common Utilities



Canvas



Persistence



Common Utilities

Libraries



Libraries

Contains shared code



Libraries

Contains shared code

Useful when sharing between projects



Libraries

Contains shared code

Useful when sharing between projects

Static or dynamic



Static vs. Dynamic Libraries

Static vs. Dynamic Libraries

Static libraries are

- Built with the project

Static vs. Dynamic Libraries

Static libraries are

- Built with the project
- Included as part of the executable

Static vs. Dynamic Libraries

Static libraries are

- Built with the project
- Included as part of the executable

Dynamic libraries are

Static vs. Dynamic Libraries

Static libraries are

- Built with the project
- Included as part of the executable

Dynamic libraries are

- Optionally built with the project

Static vs. Dynamic Libraries

Static libraries are

- Built with the project
- Included as part of the executable

Dynamic libraries are

- Optionally built with the project
- Excluded from the executable

Frameworks

NEW



Frameworks



Packaged dynamic library



Frameworks



Packaged dynamic library
Compiled binary and headers



Frameworks

NEW

Packaged dynamic library
Compiled binary and headers





iWorkAppShared-iOS



iWorkAppShared-iOS



iWorkAppShared-Mac

iWorkShared | Build iWorkShared-iOS: **Succeeded** | Today at 9:49 PM

iWorkShared

iWorkShared
2 targets, iOS SDK 8.0

- iWorkShared-iOS
- iWorkShared-iOS Tests
- Frameworks
- Products

PROJECT

- iWorkShared

TARGETS

- iWorkShared-iOS
- iWorkShared-iOS Tests

Info Build Settings

Deployment Target

iOS Deployment Target 8.0

Configurations

Name	Based on Configuration File
▶ Debug	No Configurations Set
▶ Release	No Configurations Set

+ -

Use Release for command-line builds

Localizations

Language	Resources
English — Development Language	0 Files Localized

+ -





Use Base Internationalization

iWorkShared | Build iWorkShared-iOS: **Succeeded** | Today at 9:49 PM

iWorkShared
2 targets, iOS SDK 8.0

- iWorkShared-iOS
- iWorkShared-iOS
- Frameworks
- Products

Choose a template for your new target:

iOS	 Cocoa Framework	 Library	 Bundle	 XPC Service
OS X				

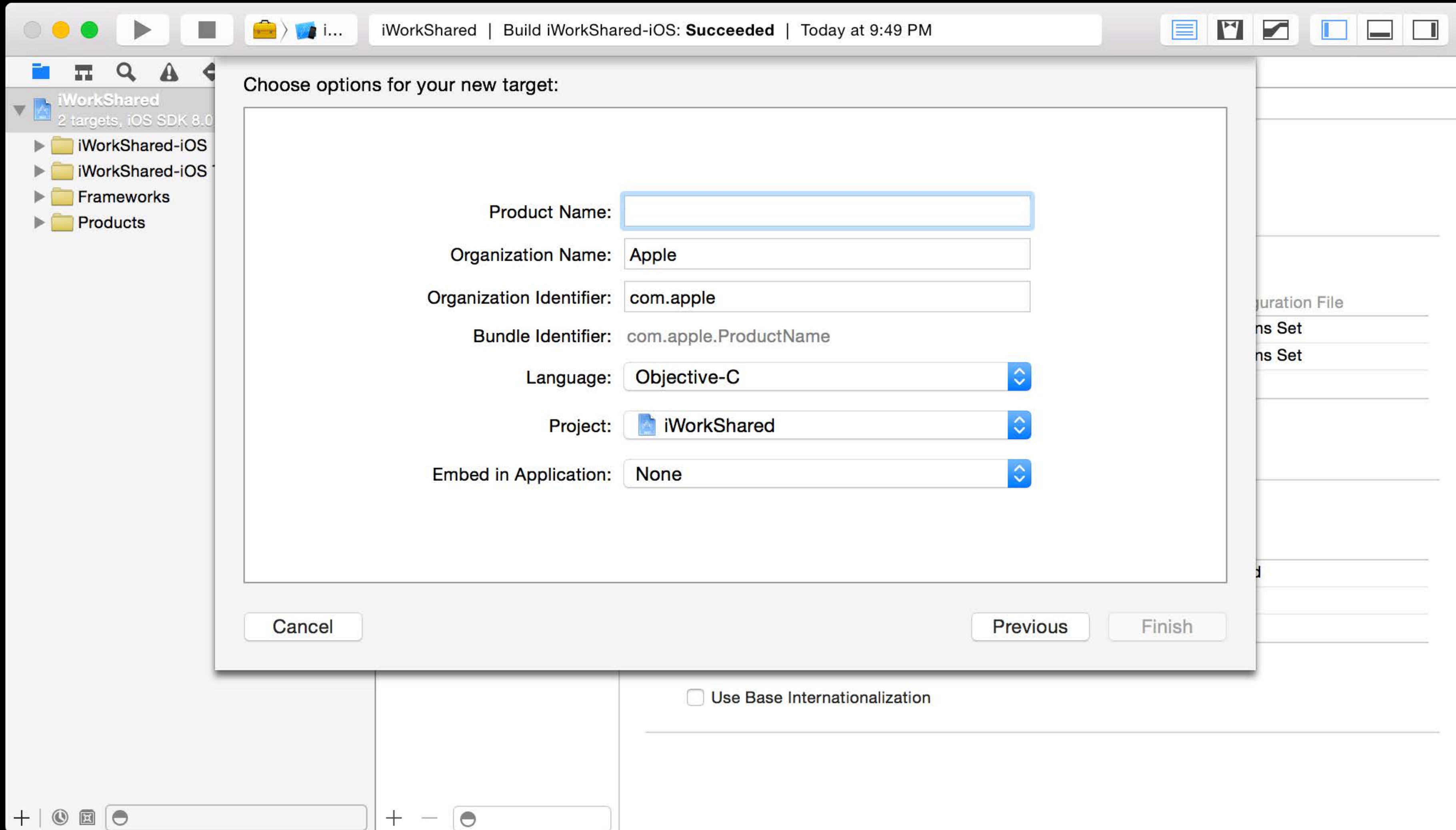
- Application
- Framework & Library
- Application Extension
- Other

- Application
- Framework & Library
- Application Extension
- System Plug-in
- Other

Cocoa Framework
This template creates a framework that uses Cocoa.

Cancel Previous Next

Use Base Internationalization



iWorkShared | Build iWorkShared-iOS: **Succeeded** | Today at 9:49 PM

Choose options for your new target:

Product Name:

Organization Name:

Organization Identifier:

Bundle Identifier:

Language:

Project:

Embed in Application:

Cancel Previous Finish

Per-configuration Intermediate Build Files Path	<Multiple values>
Debug	build/iWorkAppShared.build/Debug
Release	build/iWorkAppShared.build/Release
Precompiled Headers Cache Path	/var/folders/pb/htf521mx0tjfnvvgd834...

Build Options

iWorkShared | Build iWorkShared-iOS: **Succeeded** | Today at 9:49 PM

iWorkShared

General Info **Build Settings** Build Phases Build Rules

Basic **All** Combined Levels +

PROJECT
iWorkShared

TARGETS
iWorkShared-iOS
iWorkShared-iOS Tests
iWorkShared-Mac
iWorkShared-Mac Tests

Architectures

Setting	iWorkShared-Mac
Additional SDKs	
Architectures	Standard Architectures (64-bit Intel) ⌵
Base SDK	Latest OS X (OS X 10.10) ⌵
Build Active Architecture Only	<Multiple values> ⌵
Debug	Yes ⌵
Release	No ⌵
Supported Platforms	OS X ⌵
Valid Architectures	i386 x86_64

Build Locations

Setting	iWorkShared-Mac
Build Products Path	build
Intermediate Build Files Path	build
Per-configuration Build Products Path	<Multiple values>
Debug	build/Debug
Release	build/Release
Per-configuration Intermediate Build Files Path	<Multiple values>
Debug	build/iWorkShared.build/Debug
Release	build/iWorkShared.build/Release
Precompiled Headers Cache Path	/var/folders/pb/htf521mx0tjfnvvgd834...

Build Options

iWorkShared | Build iWorkShared-iOS: **Succeeded** | Today at 9:49 PM

iWorkShared

General Info **Build Settings** Build Phases Build Rules

Basic **All** Combined Levels +

PROJECT
iWorkShared

TARGETS
iWorkShared-iOS
iWorkShared-iOS Tests
iWorkShared-Mac
iWorkShared-Mac Tests

Architectures

Setting	iWorkShared-Mac
Additional SDKs	
Architectures	Standard Architectures (64-bit Intel) ⌵
Base SDK	Latest OS X (OS X 10.10) ⌵
Build Active Architecture Only	<Multiple values> ⌵
Debug	Yes ⌵
Release	No ⌵
Supported Platforms	OS X ⌵
Valid Architectures	i386 x86_64

Build Locations

Setting	iWorkShared-Mac
Build Products Path	build
Intermediate Build Files Path	build
Per-configuration Build Products Path	<Multiple values>
Debug	build/Debug
Release	build/Release
Per-configuration Intermediate Build Files Path	<Multiple values>
Debug	build/iWorkShared.build/Debug
Release	build/iWorkShared.build/Release
Precompiled Headers Cache Path	/var/folders/pb/htf521mx0tjfnvvgd834...

Build Options

iWorkShared | Build iWorkShared-iOS: Succeeded | Today at 9:49 PM

iWorkShared

General Info **Build Settings** Build Phases Build Rules

Basic **All** Combined Levels + Search

iWorkShared
4 targets, multiple platforms

- iWorkShared-Common
- iWorkShared-iOS
- iWorkShared-iOS Tests
- iWorkShared-Mac
- iWorkShared-Mac Tests
- Frameworks
- Products

TARGETS

- iWorkShared
- iWorkShared-iOS
- iWorkShared-iOS Tests
- iWorkShared-Mac**
- iWorkShared-Mac Tests

Architectures

Setting	iWorkShared-Mac
Additional SDKs	
Architectures	Standard Architectures (64-bit Intel) ⌵
Base SDK	Latest OS X (OS X 10.10) ⌵
▼ Build Active Architecture Only	<Multiple values> ⌵
Debug	Yes ⌵
Release	No ⌵
Supported Platforms	OS X ⌵
Valid Architectures	i386 x86_64

Build Locations

Setting	iWorkShared-Mac
Build Products Path	build
Intermediate Build Files Path	build
▼ Per-configuration Build Products Path	<Multiple values>
Debug	build/Debug
Release	build/Release
▼ Per-configuration Intermediate Build Files Path	<Multiple values>
Debug	build/iWorkShared.build/Debug
Release	build/iWorkShared.build/Release
Precompiled Headers Cache Path	/var/folders/pb/htf521mx0tjfnvvgd834...

Build Options

iWorkiOSDocument

iWorkiOSDocument

iWorkMacDocument

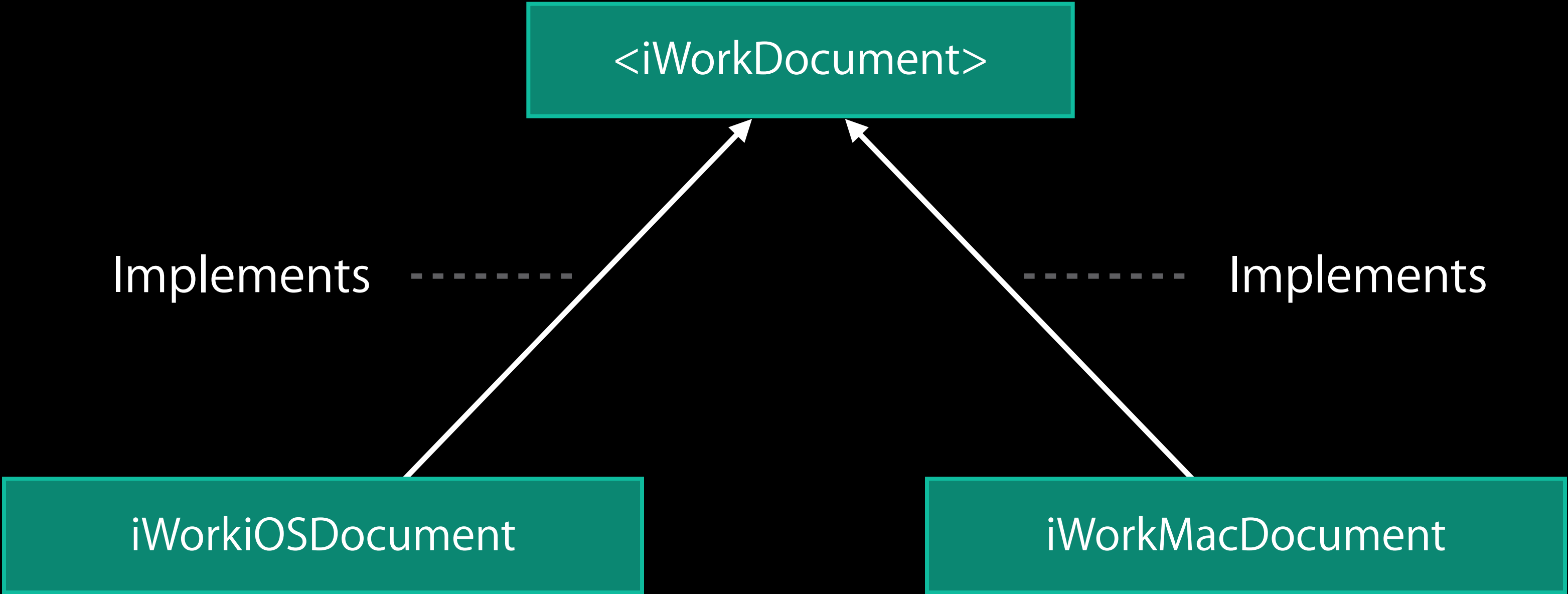
iWorkiOSDocument

iWorkMacDocument

<iWorkDocument>

iWorkiOSDocument

iWorkMacDocument



iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 10:32 PM

iWorkShared > iWorkShared-Common > iWorkDocument.h > No Selection

```
1 //
2 // iWorkDocument.h
3 // iWorkShared
4 //
5 // Created by Chris Cowdery-Corvan on 6/2/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #import "iWorkDocumentObject.h"
10
11 @protocol iWorkDocument <NSObject>
12
13 /// Location of the document. Can be either on disk or iCloud.
14 @property(readonly, nonatomic) NSURL *documentURL;
15
16 /// Unique identifier for this document.
17 @property(readonly, nonatomic) NSUUID *documentUUID;
18
19 /// Add an object to the document. This ensures it will be saved when the document is written.
20 - (void) addDocumentObject:(iWorkDocumentObject*)documentObject;
21
22 /// Remove an object from the document.
23 - (void) removeDocumentObject:(iWorkDocumentObject*)documentObject;
24
25 /// List of all objects present in the document;
26 - (NSOrderedSet*)documentObjects;
27
28 /// Saves the document to its associated URL.
29 - (void) save;
30
31 @end
```


iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 10:50 PM

iWorkShared > iWorkShared-Mac > iWorkMacDocument.h > No Selection

- iWorkShared
 - 4 targets, multiple platforms
 - iWorkShared-Common
 - iWorkDocument.h
 - iWorkDocumentObject.h
 - iWorkDocumentObject.m
 - iWorkShared-iOS
 - iWorkShared-iOS Tests
 - iWorkShared-Mac
 - iWorkShared-Mac.h
 - iWorkMacDocument.h**
 - iWorkMacDocument.m
 - Supporting Files
 - iWorkShared-Mac Tests
 - Frameworks
 - Products

```
1 //
2 // iWorkMacDocument.h
3 // iWorkShared
4 //
5 // Created by Chris Cowdery-Corvan on 6/2/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #import "iWorkDocument.h"
10
11 #import <UIKit/UIKit.h>
12
13 @interface iWorkMacDocument : NSDocument <iWorkDocument>
14
15 @end
16
```

iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 10:50 PM

iWorkShared > iWorkShared-Mac > iWorkMacDocument.m > @implementation iWorkMacDocument

- iWorkShared
 - 4 targets, multiple platforms
 - iWorkShared-Common
 - iWorkDocument.h
 - iWorkDocumentObject.h
 - iWorkDocumentObject.m
 - iWorkShared-iOS
 - iWorkShared-iOS Tests
 - iWorkShared-Mac
 - iWorkShared-Mac.h
 - iWorkMacDocument.h
 - iWorkMacDocument.m
 - Supporting Files
 - iWorkShared-Mac Tests
 - Frameworks
 - Products

```
1 //
2 // iWorkMacDocument.m
3 // iWorkShared
4 //
5 // Created by Chris Cowdery-Corvan on 6/2/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #import "iWorkMacDocument.h"
10
11 @implementation iWorkMacDocument
12
13 - (NSURL*) documentURL
14 {
15     return NSSomethingRespectable();
16 }
17
18 - (NSUUID*) documentUUID
19 {
20     return NSIThinkThatsMyDocument();
21 }
22
23 - (void) addDocumentObject:(iWorkDocumentObject *)documentObject
24 {
25     NSNothingToDoHere();
26 }
27
28 - (void) removeDocumentObject:(iWorkDocumentObject *)documentObject
29 {
30     NSJazzHands();
31 }
32
33 - (NSOrderedSet*) documentObjects
34 {
35     return NSAllTheThings();
36 }
37
```

iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 8:44 AM

iWorkShared

General Info **Build Settings** Build Phases Build Rules

Basic **All** Combined Levels + Search

PROJECT
iWorkShared

TARGETS
iWorkShared-iOS
iWorkShared-iOS Tests
iWorkShared-Mac
iWorkShared-Mac Tests

▼ Packaging

Setting	iWorkShared-Mac
Convert Copied Files	No ▾
Create Info.plist Section in Binary	No ▾
Defines Module	Yes ▾
Executable Extension	
Executable Prefix	
Expand Build Settings in Info.plist File	Yes ▾
Force Package Info Generation	No ▾
Framework Version	A
Info.plist File	iWorkShared-Mac/Info.plist
Info.plist Other Preprocessor Flags	
Info.plist Output Encoding	same-as-input ▾
Info.plist Preprocessor Definitions	
Info.plist Preprocessor Prefix File	
Module Map File	
Preprocess Info.plist File	No ▾
▶ Preserve HFS Data	No ▾
Private Headers Folder Path	iWorkShared-Mac.framework/Versions/...
Product Module Name	
Product Name	iWorkShared-Mac
Property List Output Encoding	same-as-input ▾
▶ Public Headers Folder Path	iWorkShared-Mac.framework/Versions/...
Strings file Output Encoding	UTF-16 ▾
Wrapper Extension	framework

iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 8:44 AM

iWorkShared

General Info **Build Settings** Build Phases Build Rules

Basic **All** Combined Levels + Search

PROJECT
iWorkShared

TARGETS
iWorkShared-iOS
iWorkShared-iOS Tests
iWorkShared-Mac
iWorkShared-Mac Tests

▼ Packaging

Setting	iWorkShared-Mac
Convert Copied Files	No ▾
Create Info.plist Section in Binary	No ▾
Defines Module	Yes ▾
Executable Extension	
Executable Prefix	
Expand Build Settings in Info.plist File	Yes ▾
Force Package Info Generation	No ▾
Framework Version	A
Info.plist File	iWorkShared-Mac/Info.plist
Info.plist Other Preprocessor Flags	
Info.plist Output Encoding	same-as-input ▾
Info.plist Preprocessor Definitions	
Info.plist Preprocessor Prefix File	
Module Map File	
Preprocess Info.plist File	No ▾
▶ Preserve HFS Data	No ▾
Private Headers Folder Path	iWorkShared-Mac.framework/Versions/...
Product Module Name	
Product Name	iWorkShared-Mac
Property List Output Encoding	same-as-input ▾
▶ Public Headers Folder Path	iWorkShared-Mac.framework/Versions/...
Strings file Output Encoding	UTF-16 ▾
Wrapper Extension	framework

iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 8:44 AM

iWorkShared

4 targets, multiple platforms

- iWorkShared-Common
 - iWorkDocument.h
 - iWorkDocumentObject.h
 - iWorkDocumentObject.m
- iWorkShared-iOS
- iWorkShared-iOS Tests
- iWorkShared-Mac
 - iWorkShared-Mac.h
 - iWorkMacDocument.h
 - iWorkMacDocument.m
- Supporting Files
- iWorkShared-Mac Tests
- Frameworks
- Products

PROJECT: iWorkShared

TARGETS: iWorkShared-iOS, iWorkShared-iOS Tests, iWorkShared-Mac, iWorkShared-Mac Tests

Build Settings

Basic | All | Combined | Levels | +

Search

Setting | iWorkShared-Mac

Convert Copied Files	No
Create Info.plist Section in Binary	No
Defines Module	Yes
Executable Extension	
Executable Prefix	
Expand Build Settings in Info.plist File	Yes
Force Package Info Generation	No
Framework Version	A
Info.plist File	iWorkShared-Mac/Info.plist
Info.plist Other Preprocessor Flags	
Info.plist Output Encoding	same-as-input
Info.plist Preprocessor Definitions	<code>\$(CONTENTS_FOLDER_PATH)/Headers</code>
Info.plist Preprocessor Prefix File	
Module Map File	
Preprocess Info.plist File	
Preserve HFS Data	
Private Headers Folder Path	
Product Module Name	
Product Name	
Property List Output Encoding	same-as-input
Public Headers Folder Path	iWorkShared-Mac.framework/Versions/...
Strings file Output Encoding	UTF-16
Wrapper Extension	framework

iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 8:44 AM

iWorkShared

General Info **Build Settings** Build Phases Build Rules

Basic **All** Combined Levels + Search

PROJECT
iWorkShared

TARGETS
iWorkShared-iOS
iWorkShared-iOS Tests
iWorkShared-Mac
iWorkShared-Mac Tests

▼ Packaging

Setting	iWorkShared-Mac
Convert Copied Files	No ⌵
Create Info.plist Section in Binary	No ⌵
Defines Module	Yes ⌵
Executable Extension	
Executable Prefix	
Expand Build Settings in Info.plist File	Yes ⌵
Force Package Info Generation	No ⌵
Framework Version	A
Info.plist File	iWorkShared-Mac/Info.plist
Info.plist Other Preprocessor Flags	
Info.plist Output Encoding	same-as-input ⌵
Info.plist Preprocessor Definitions	
Info.plist Preprocessor Prefix File	
Module Map File	
Preprocess Info.plist File	
Preserve HFS Data	
Private Headers Folder Path	
Product Module Name	
Product Name	
Property List Output Encoding	same-as-input ⌵
Public Headers Folder Path	iWorkShared-Mac.framework/Versions/...
Strings file Output Encoding	UTF-16 ⌵
Wrapper Extension	framework

iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 8:44 AM

iWorkShared

4 targets, multiple platforms

- iWorkShared-Common
 - iWorkDocument.h
 - iWorkDocumentObject.h
 - iWorkDocumentObject.m
- iWorkShared-iOS
- iWorkShared-iOS Tests
- iWorkShared-Mac
 - iWorkShared-Mac.h
 - iWorkMacDocument.h
 - iWorkMacDocument.m
- Supporting Files
- iWorkShared-Mac Tests
- Frameworks
- Products

PROJECT: iWorkShared

TARGETS: iWorkShared-iOS, iWorkShared-iOS Tests, iWorkShared-Mac, iWorkShared-Mac Tests

Build Settings: Basic, All, Combined, Levels

Setting | iWorkShared-Mac

Convert Copied Files	No
Create Info.plist Section in Binary	No
Defines Module	Yes
Executable Extension	
Executable Prefix	
Expand Build Settings in Info.plist File	Yes
Force Package Info Generation	No
Framework Version	A
Info.plist File	iWorkShared-Mac/Info.plist
Info.plist Other Preprocessor Flags	
Info.plist Output Encoding	same-as-input
Info.plist Preprocessor Definitions	iWorkShared
Info.plist Preprocessor Prefix File	
Module Map File	
Preprocess Info.plist File	
Preserve HFS Data	
Private Headers Folder Path	
Product Module Name	
Product Name	
Property List Output Encoding	same-as-input
Public Headers Folder Path	<Multiple values>
Strings file Output Encoding	UTF-16
Wrapper Extension	framework

iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 8:44 AM

iWorkShared

4 targets, multiple platforms

- iWorkShared-Common
 - iWorkDocument.h
 - iWorkDocumentObject.h
 - iWorkDocumentObject.m
- iWorkShared-iOS
- iWorkShared-iOS Tests
- iWorkShared-Mac
 - iWorkShared-Mac.h
 - iWorkMacDocument.h
 - iWorkMacDocument.m
 - Supporting Files
- iWorkShared-Mac Tests
- Frameworks
- Products

PROJECT: iWorkShared

TARGETS: iWorkShared-iOS, iWorkShared-iOS Tests, iWorkShared-Mac, iWorkShared-Mac Tests

Build Settings: Basic, All, Combined, Levels

▼ Packaging

Setting	iWorkShared-Mac
Convert Copied Files	No
Create Info.plist Section in Binary	No
Defines Module	Yes
Executable Extension	Yes
Executable Prefix	No
Info.plist Other Preprocessor Flags	same-as-input
Info.plist Output Encoding	same-as-input
Info.plist Preprocessor Definitions	iWorkShared
Info.plist Preprocessor Prefix File	
Module Map File	
Preprocess Info.plist File	
Preserve HFS Data	
Private Headers Folder Path	
Product Module Name	
Product Name	
Property List Output Encoding	same-as-input
Public Headers Folder Path	<Multiple values>
Strings file Output Encoding	UTF-16
Wrapper Extension	framework

#import <iWorkShared/SomeClass.h>

iWorkShared | Build iWorkShared-Mac: Succeeded | Today at 8:44 AM

iWorkShared

General Info **Build Settings** Build Phases Build Rules

Basic **All** Combined Levels + Search

PROJECT
iWorkShared

TARGETS
iWorkShared-iOS
iWorkShared-iOS Tests
iWorkShared-Mac
iWorkShared-Mac Tests

▼ Packaging

Setting	iWorkShared-Mac
Convert Copied Files	No ▾
Create Info.plist Section in Binary	No ▾
Defines Module	Yes ▾
Executable Extension	
Executable Prefix	
Expand Build Settings in Info.plist File	Yes ▾
Force Package Info Generation	No ▾
Framework Version	A
Info.plist File	iWorkShared-Mac/Info.plist
Info.plist Other Preprocessor Flags	
Info.plist Output Encoding	same-as-input ▾
Info.plist Preprocessor Definitions	
Info.plist Preprocessor Prefix File	
▶ Module Map File	
Preprocess Info.plist File	No ▾
Preserve HFS Data	No ▾
Private Headers Folder Path	iWorkShared-Mac.framework/Versions/...
Product Module Name	
Product Name	iWorkShared-Mac
Property List Output Encoding	same-as-input ▾
▶ Public Headers Folder Path	iWorkShared
Strings file Output Encoding	UTF-16 ▾
Wrapper Extension	framework

iWork | Build Keynote Mac: **Succeeded** | Today at 9:12 AM

Keynote > Keynote Mac > KNMacDocumentWindowController.h > No Selection

- Keynote
 - 4 targets, multiple platforms
 - Keynote iOS
 - Keynote iOS Tests
 - Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
 - Keynote Mac Tests
 - Frameworks
 - Products
 - iWorkShared.xcodeproj
 - 4 targets, multiple platforms
- Pages
 - 2 targets, iOS SDK 8.0
- Numbers
 - 2 targets, iOS SDK 8.0

```
1 //
2 // KNMacDocumentWindowController.h
3 // Keynote
4 //
5 // Created by Chris Cowdery-Corvan on 6/3/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #import <Cocoa/Cocoa.h>
10
11 @interface KNMacDocumentWindowController : NSWindowController
12
13 @end
14
```

iWork | Build Keynote Mac: **Succeeded** | Today at 9:12 AM

Keynote > Keynote Mac > KNMacDocumentWindowController.h > No Selection

- Keynote
 - 4 targets, multiple platforms
 - Keynote iOS
 - Keynote iOS Tests
 - Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
 - Keynote Mac Tests
 - Frameworks
 - Products
 - iWorkShared.xcodeproj
 - 4 targets, multiple platforms
- Pages
 - 2 targets, iOS SDK 8.0
- Numbers
 - 2 targets, iOS SDK 8.0

```
1 //
2 // KNMacDocumentWindowController.h
3 // Keynote
4 //
5 // Created by Chris Cowdery-Corvan on 6/3/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #import <Cocoa/Cocoa.h>
10
11 #import <iWorkShared/iWorkMacDocument.h>
12
13 @interface KNMacDocumentWindowController : NSWindowController
14
15 @end
16
```

iWork | Build Keynote Mac: **Failed** | Today at 3:00 PM

Keynote > Keynote Mac > KNMacDocumentWindowController.h > No Selection

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms

Pages
2 targets, iOS SDK 8.0

Numbers
2 targets, iOS SDK 8.0

```
1 //
2 // KNMacDocumentWindowController.h
3 // Keynote
4 //
5 // Created by Chris Cowdery-Corvan on 6/3/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #import <Cocoa/Cocoa.h>
10
11 #import <iWorkShared/iWorkMacDocument.h>
12
13 @interface KNMacDocumentWindowController : NSWindowController
14
15 @end
16
```

'iWorkShared/iWorkMacDocument.h' file not found

iWork | Build Keynote Mac: **Failed** | Today at 3:00 PM

Keynote > Keynote Mac > KNMacDocumentWindowController.h > No Selection

Keynote
4 targets, multiple platforms


- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms

Pages
2 targets, iOS SDK 8.0

Numbers
2 targets, iOS SDK 8.0

```
1 //  
2 // KNMacDocumentWindowController.h  
3 // Keynote  
4 //  
5 // Created by Chris Cowdery-Corvan on 6/3/14.  
6 // Copyright (c) 2014 Apple Inc. All rights reserved.  
7 //  
8  
9 #import <Cocoa/Cocoa.h>  
10  
11 #import <iWorkShared/iWorkMacDocument.h>  
12  
13 @interface KNMacDocumentWindowController : NSWindowController  
14  
15 @end  
16
```

'iWorkShared/iWorkMacDocument.h' file not found



Build Failed

iWork | Build Keynote Mac: **Failed** | Today at 3:00 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

General Capabilities Info **Build Settings** Build Phases Build Rules

Basic **All** | **Combined** Levels | +

Search

▼ Search Paths

Setting	Keynote Mac
Always Search User Paths	No
Framework Search Paths	
▶ Header Search Paths	/Applications/Xcode6-Beta.app/Content...
Library Search Paths	
Rez Search Paths	
▶ Sub-Directories to Exclude in Recursive Searches	*.nib *.lproj *.framework *.gch *.xcode* (*)...
Sub-Directories to Include in Recursive Searches	
User Header Search Paths	

▶ Unit Testing

▶ Versioning

▶ Apple LLVM 6.0 - Code Generation

▶ Apple LLVM 6.0 - Custom Compiler Flags

iWork | Build Keynote Mac: **Failed** | Today at 3:00 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT: Keynote

TARGETS: Keynote iOS, Keynote iOS T..., Keynote Mac, Keynote Mac T...

Build Settings: Basic | All | Combined | Levels | +

Search Paths

Setting	Value
Always Search User Paths	No
Framework Search Paths	
Header Search Paths	/Applications/Xcode6-Beta.app/Content...
Library Search Paths	

Library Search Paths:

- \$(inherited) non-recursive
- /Applications/Xcode6-Beta.app/Contents/Developer/Toolchains/Xcode... non-recursive

Unit Testing

Versioning

Apple LLVM 6.0 - Code Generation

Apple LLVM 6.0 - Custom Compiler Flags

iWork | Build Keynote Mac: **Failed** | Today at 3:00 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT: Keynote

TARGETS: Keynote iOS, Keynote iOS T..., Keynote Mac, Keynote Mac T...

Build Settings: Basic | All | Combined | Levels | +

Search Paths

Setting	Value
Always Search User Paths	No
Framework Search Paths	
Header Search Paths	/Applications/Xcode6-Beta.app/Content...
Library Search Paths	

Library Search Paths dropdown:

\$(inherited)	non-recursive
/Applications/Xcode6-Beta.app/Contents/Developer/Toolchains/Xcode...	non-recursive
\$(CONFIGURATION_BUILD_DIR)	non-recursive

Unit Testing

Versioning

Apple LLVM 6.0 - Code Generation

Apple LLVM 6.0 - Custom Compiler Flags

iWork | Build Keynote Mac: **Failed** | Today at 3:00 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT: Keynote

TARGETS: Keynote iOS, Keynote iOS T..., Keynote Mac, Keynote Mac T...

Build Settings: Basic | All | Combined | Levels | +

Search Paths

Setting	Value
Always Search User Paths	No
Framework Search Paths	
Header Search Paths	/Applications/Xcode6-Beta.app/Content...
Library Search Paths	

Library Search Paths:

\$(inherited)	non-recursive
/Applications/Xcode6-Beta.app/Contents/Developer/Toolchains/Xcode...	non-recursive
\$(CONFIGURATION_BUILD_DIR)	non-recursive

Unit Testing

Versioning

Apple LLVM 6.0 - Code Generation

Apple LLVM 6.0 - Custom Compiler Flags

iWork | Build Keynote Mac: **Failed** | Today at 3:00 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT: Keynote

TARGETS: Keynote iOS, Keynote iOS T..., Keynote Mac, Keynote Mac T...

Build Settings

Basic | All | Combined | Levels | +

Search

Search Paths

- Setting: Keynote Mac
- Always Search User Paths: No
- Framework Search Paths
- Header Search Paths: <Multiple values>
 - Debug: /Applications/Xcode6-Beta.app/Conte...
 - Release: /Applications/Xcode6-Beta.app/Conte...
- Library Search Paths
- Rez Search Paths
- Sub-Directories to Exclude in Recursive Searches: *.nib *.lproj *.framework *.gch *.xcode* (*)...
- Sub-Directories to Include in Recursive Searches
- User Header Search Paths

Unit Testing

Versioning

Apple LLVM 6.0 - Code Generation

Apple LLVM 6.0 - Custom Compiler Flags

iWork | Build Keynote Mac: Succeeded | Today at 7:27 PM

Keynote > Keynote Mac > KNMacDocumentWindowController.m > No Selection

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m**
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms

Pages
2 targets, iOS SDK 8.0

Numbers
2 targets, iOS SDK 8.0

```
1 //
2 // KNMacDocumentWindowController.m
3 // Keynote
4 //
5 // Created by Chris Cowdery-Corvan on 6/3/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #import "KNMacDocumentWindowController.h"
10 #import "KNSlide.h"
11
12 @implementation KNMacDocumentWindowController
13 {
14     iWorkMacDocument *_document;
15 }
16
17 - (instancetype) initWithWindow:(NSWindow *)window document:(iWorkMacDocument*)document
18 {
19     self = [super initWithWindow:window];
20
21     if (self != nil) {
22         _document = document;
23     }
24
25     return self;
26 }
27
28 - (IBAction) addShape:(iWorkShape*)shape toSlide:(KNSlide*)slide
29 {
30     // Add the shape to the document first, then associate it with the slide.
31     [_document addDocumentObject:shape];
32     [slide addShape:shape];
33 }
34
35 - (IBAction) removeShape:(iWorkShape*)shape fromSlide:(KNSlide*)slide
36 {
37     // Remove the shape from the slide, then remove it from the document.
```

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote > KNMacDocumentWindowController.m > @implementation KNMacDocumentWindowController

By File By Type

Keynote Mac 2 issues

- Apple Mach-O Linker (ld) Error
"_OBJC_CLASS_\$_iWorkMacDocument",
referenced from:
- Apple Mach-O Linker (ld) Error
Linker command failed with exit code 1 (use
-v to see invocation)

```
1 //
2 // KNMacDocumentWindowController.m
3 // Keynote
4 //
5 // Created by Chris Cowdery-Corvan on 6/3/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #import "KNMacDocumentWindowController.h"
10 #import "KNSlide.h"
11
12 @implementation KNMacDocumentWindowController
13 {
14     iWorkMacDocument *_document;
15 }
16
17 - (instancetype) initWithWindow:(NSWindow *)window document:(iWorkMacDocument*)document
18 {
19     self = [super initWithWindow:window];
20
21     if (self != nil) {
22         _document = document;
23     }
24
25     return self;
26 }
27
28 - (IBAction) addShape:(iWorkShape*)shape toSlide:(KNSlide*)slide
29 {
30     // Add the shape to the document first, then associate it with the slide.
31     [_document addDocumentObject:shape];
32     [slide addShape:shape];
33 }
34
35 - (IBAction) removeShape:(iWorkShape*)shape fromSlide:(KNSlide*)slide
36 {
37     // Remove the shape from the slide, then remove it from the document.
```

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM


Keynote > KNMacDocumentWindowController.m > @implementation KNMacDocumentWindowController

By File By Type

Keynote Mac 2 issues

- Apple Mach-O Linker (ld) Error
"_OBJC_CLASS_\$_iWorkMacDocument",
referenced from:
- Apple Mach-O Linker (ld) Error
Linker command failed with exit code 1 (use
-v to see invocation)

```
1 //
2 // KNMacDocumentWindowController.m
3 // Keynote
4 //
5 // Created by Chris Cowdery-Corvan on 6/3/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #import "KNMacDocumentWindowController.h"
10 #import "KNSlide.h"
11
12 @implementation KNMacDocumentWindowController
13 {
14     iWorkMacDocument *_document;
15 }
16
17 - (instancetype) initWithWindow:(NSWindow *)window document:(iWorkMacDocument*)document
18 {
19     self = [super initWithWindow:window];
20
21     if (self != nil) {
22         _document = document;
23     }
24
25     return self;
26 }
27
28 - (IBAction) addShape:(iWorkShape*)shape toSlide:(KNSlide*)slide
29 {
30     // Add the shape to the document first, then associate it with the slide.
31     [_document addDocumentObject:shape];
32     [slide addShape:shape];
33 }
34
35 - (IBAction) removeShape:(iWorkShape*)shape fromSlide:(KNSlide*)slide
36 {
37     // Remove the shape from the slide, then remove it from the document.
```



Build Failed

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

General Capabilities Info Build Settings **Build Phases** Build Rules

Q Search

- Target Dependencies (0 items)
- Compile Sources (5 items) ×
- Link Binary With Libraries (0 items) ×
- Copy Bundle Resources (2 items) ×

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote

4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
 - 4 targets, multiple platforms
- Pages
 - 2 targets, iOS SDK 8.0
- Numbers
 - 2 targets, iOS SDK 8.0

PROJECT

- Keynote

TARGETS

- Keynote iOS
- Keynote iOS T...
- Keynote Mac
- Keynote Mac T...

General Capabilities Info Build Settings **Build Phases** Build Rules

Search

- Target Dependencies (0 items)
- Compile Sources (5 items) ×
- Link Binary With Libraries (0 items) ×
- Copy Bundle Resources (2 items) ×

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote
4 targets, multiple platforms

- ▶ Keynote iOS
- ▶ Keynote iOS Tests
- ▼ Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - ▶ Supporting Files
- ▶ Keynote Mac Tests
- ▶ Frameworks
- ▶ Products
- ▶ **iWorkShared.xcodeproj**
4 targets, multiple platforms
- ▶ **Pages**
2 targets, iOS SDK 8.0
- ▶ **Numbers**
2 targets, iOS SDK 8.0

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

General Capabilities Info Build Settings **Build Phases** Build Rules

Q Search

▼ Target Dependencies (0 items)

Add target dependencies here

▶ Compile Sources (5 items) ×

▶ Link Binary With Libraries (0 items) ×

▶ Copy Bundle Resources (2 items) ×

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

General Capabilities Info Build Settings **Build Phases** Build Rules

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

Target Dependencies (0 items)

Add target dependencies here

Compile Sources (5 items) ×

Link Binary With Libraries (0 items) ×

Copy Bundle Resources (2 items) ×

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj**
4 targets, multiple platforms
- Pages**
2 targets, iOS SDK 8.0
- Numbers**
2 targets, iOS SDK 8.0

Choose items to add:

Search

- Keynote
 - Keynote iOS
 - Keynote iOS Tests
 - Keynote Mac Tests
- iWorkShared
 - iWorkShared-iOS
 - iWorkShared-iOS Tests
 - iWorkShared-Mac**
 - iWorkShared-Mac Tests

Cancel Add

Build Phases Build Rules

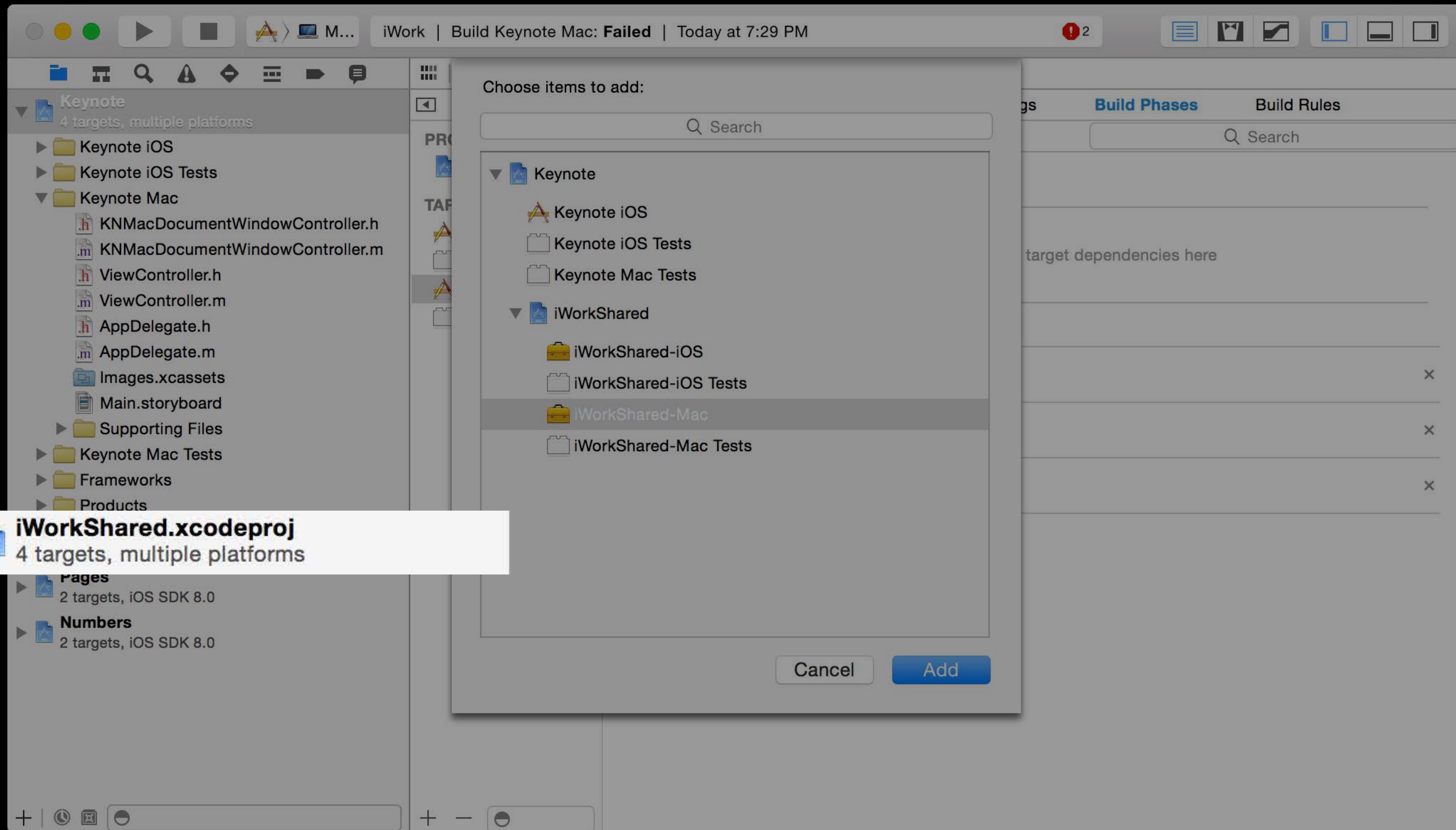
Search

target dependencies here

x

x

x



iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

Target Dependencies (1 item)
iWorkShared-Mac (iWorkShared)

Compile Sources (5 items) x

Link Binary With Libraries (0 items) x

Copy Bundle Resources (2 items) x

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj**
4 targets, multiple platforms
- Pages**
2 targets, iOS SDK 8.0
- Numbers**
2 targets, iOS SDK 8.0

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

General Capabilities Info Build Settings **Build Phases** Build Rules

Q Search

▼ Target Dependencies (1 item)

- iWorkShared-Mac (iWorkShared)

▼ Compile Sources (5 items) ×

▼ Link Binary With Libraries (0 items) ×

Name	Status
Add frameworks & libraries here	

▼ Copy Bundle Resources (2 items) ×

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj**
4 targets, multiple platforms
- Pages**
2 targets, iOS SDK 8.0
- Numbers**
2 targets, iOS SDK 8.0

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

General Capabilities Info Build Settings **Build Phases** Build Rules

Q Search

▼ Target Dependencies (1 item)

- iWorkShared-Mac (iWorkShared)

▼ Compile Sources (5 items) ×

▼ Link Binary With Libraries (0 items) ×

Name	Status
Add frameworks & libraries here	
Drag to reorder frameworks	

▼ Copy Bundle Resources (2 items) ×

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj**
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

Choose frameworks and libraries to add:

Search

- Workspace
 - iWorkShared-iOS.framework
 - iWorkShared-Mac.framework**
- OS X 10.10
 - Accelerate.framework
 - Accounts.framework
 - AddressBook.framework
 - AGL.framework
 - AppKit.framework
 - AppKitScripting.framework
 - AppleScriptKit.framework
 - AppleScriptObjC.framework
 - ApplicationServices.framework
 - AudioToolbox.framework
 - AudioUnit.framework

Add Other... Cancel Add

Build Phases

Build Rules

Search

Status

frameworks & libraries here

tag to reorder frameworks

iWork | Build Keynote Mac: **Failed** | Today at 7:29 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

General Capabilities Info Build Settings **Build Phases** Build Rules

Q Search

▼ Target Dependencies (1 item)

- iWorkShared-Mac (iWorkShared)

▼ Compile Sources (5 items) ×

▼ Link Binary With Libraries (1 item) ×

Name	Status
iWorkShared-Mac.framework	Required ⬆

Drag to reorder frameworks

▼ Copy Bundle Resources (2 items) ×

iWork | Build Keynote Mac: **Succeeded** | Today at 7:35 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

General Capabilities Info Build Settings **Build Phases** Build Rules

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

Target Dependencies (1 item)

- iWorkShared-Mac (iWorkShared)

Compile Sources (5 items)

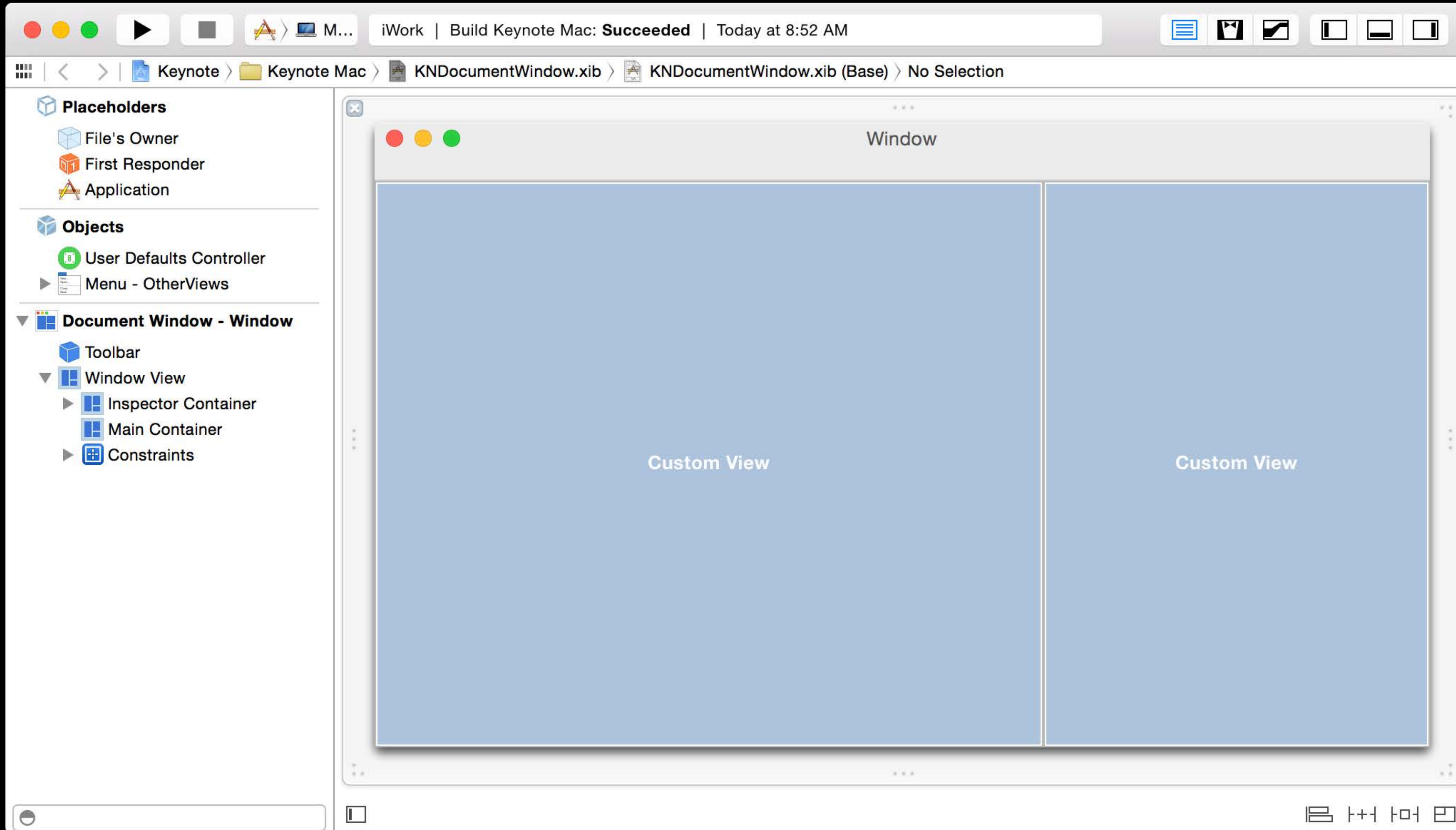
Link Binary With Libraries (1 item)

Name	Status
iWorkShared-Mac.framework	Required

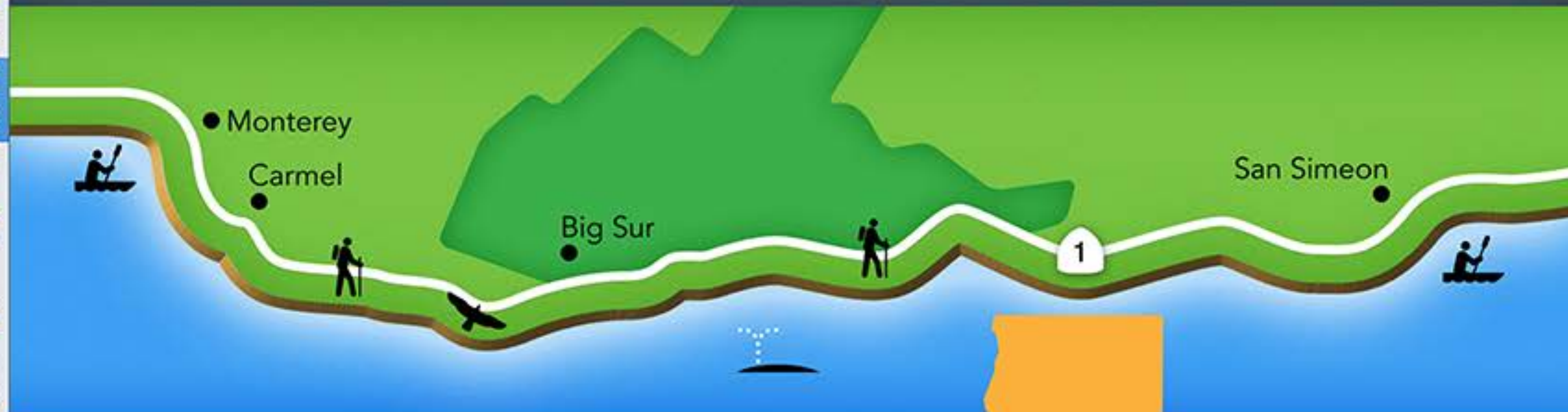
Drag to reorder frameworks

Copy Bundle Resources (2 items)

Build Succeeded



There's so much to see and do.



Explore by land.

Discover miles of hiking trails and encounter dozens of unique plant and animal species.

Explore by sea.

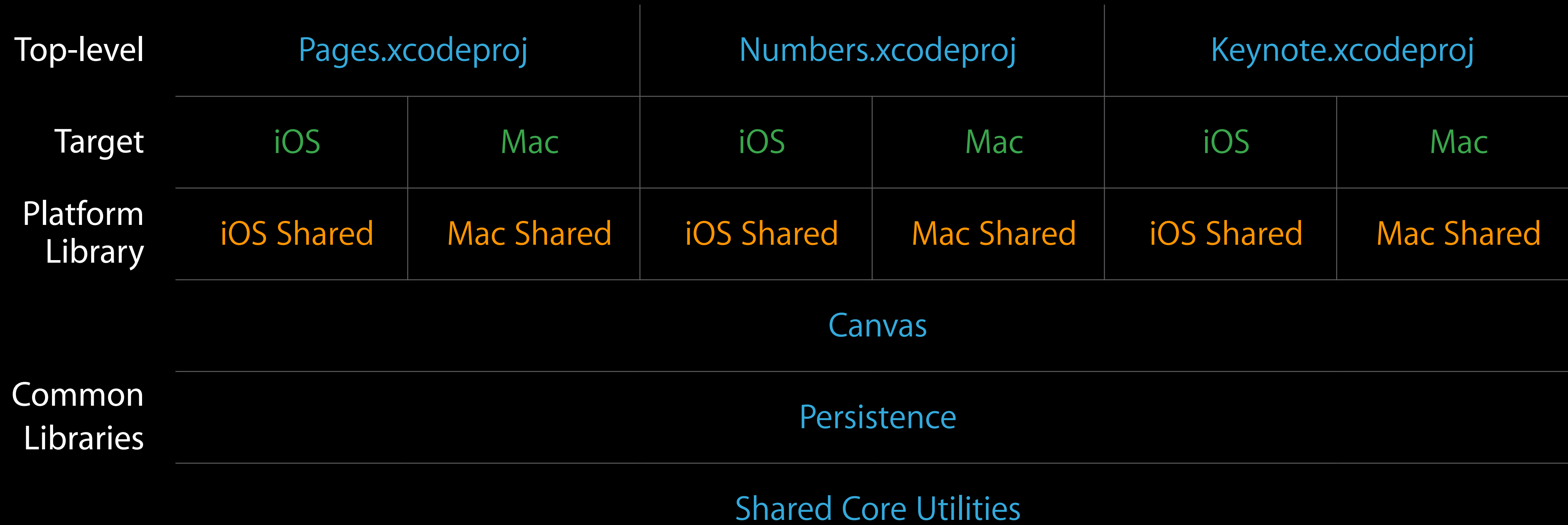
Paddle through hidden coves and tiptoe through tidal pools. Both are home to a wide variety of sea life.

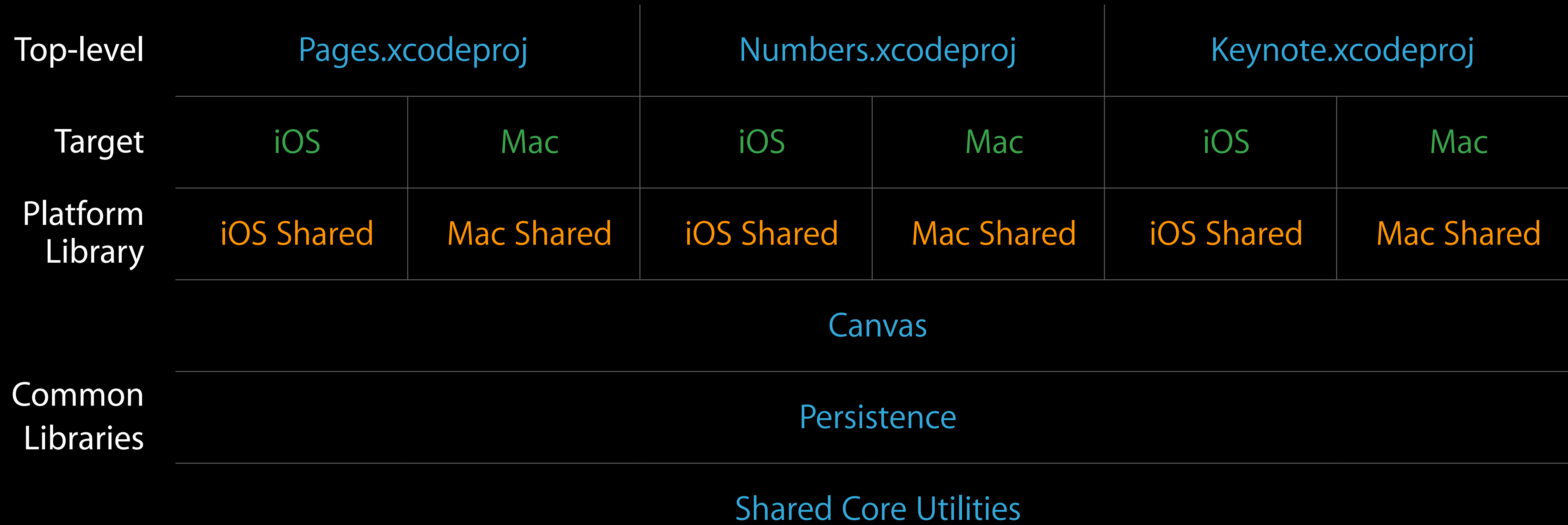


Slides

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

+







iWork | Build Keynote Mac: **Failed** | Today at 3:00 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT: Keynote

TARGETS: Keynote iOS, Keynote iOS T..., Keynote Mac, Keynote Mac T...

Build Settings: Basic | All | Combined | Levels | +

Search Paths

Setting	Value
Always Search User Paths	No
Framework Search Paths	
Header Search Paths	/Applications/Xcode6-Beta.app/Content...
Library Search Paths	

Library Search Paths:

Path	Recursion
\$(inherited)	non-recursive
/Applications/Xcode6-Beta.app/Contents/Developer/Toolchains/Xcode...	non-recursive
\$(CONFIGURATION_BUILD_DIR)	non-recursive

Unit Testing

Versioning

Apple LLVM 6.0 - Code Generation

Apple LLVM 6.0 - Custom Compiler Flags

iWork | Build Keynote Mac: **Failed** | Today at 3:00 PM

Keynote
4 targets, multiple platforms

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
 - KNMacDocumentWindowController.h
 - KNMacDocumentWindowController.m
 - ViewController.h
 - ViewController.m
 - AppDelegate.h
 - AppDelegate.m
 - Images.xcassets
 - Main.storyboard
 - Supporting Files
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT: Keynote

TARGETS: Keynote iOS, Keynote iOS T..., Keynote Mac, Keynote Mac T...

Build Settings: Basic | All | Combined | Levels | +

Search Paths

Setting	Value
Always Search User Paths	No
Framework Search Paths	
Header Search Paths	/Applications/Xcode6-Beta.app/Content...
Library Search Paths	

Library Search Paths dropdown:

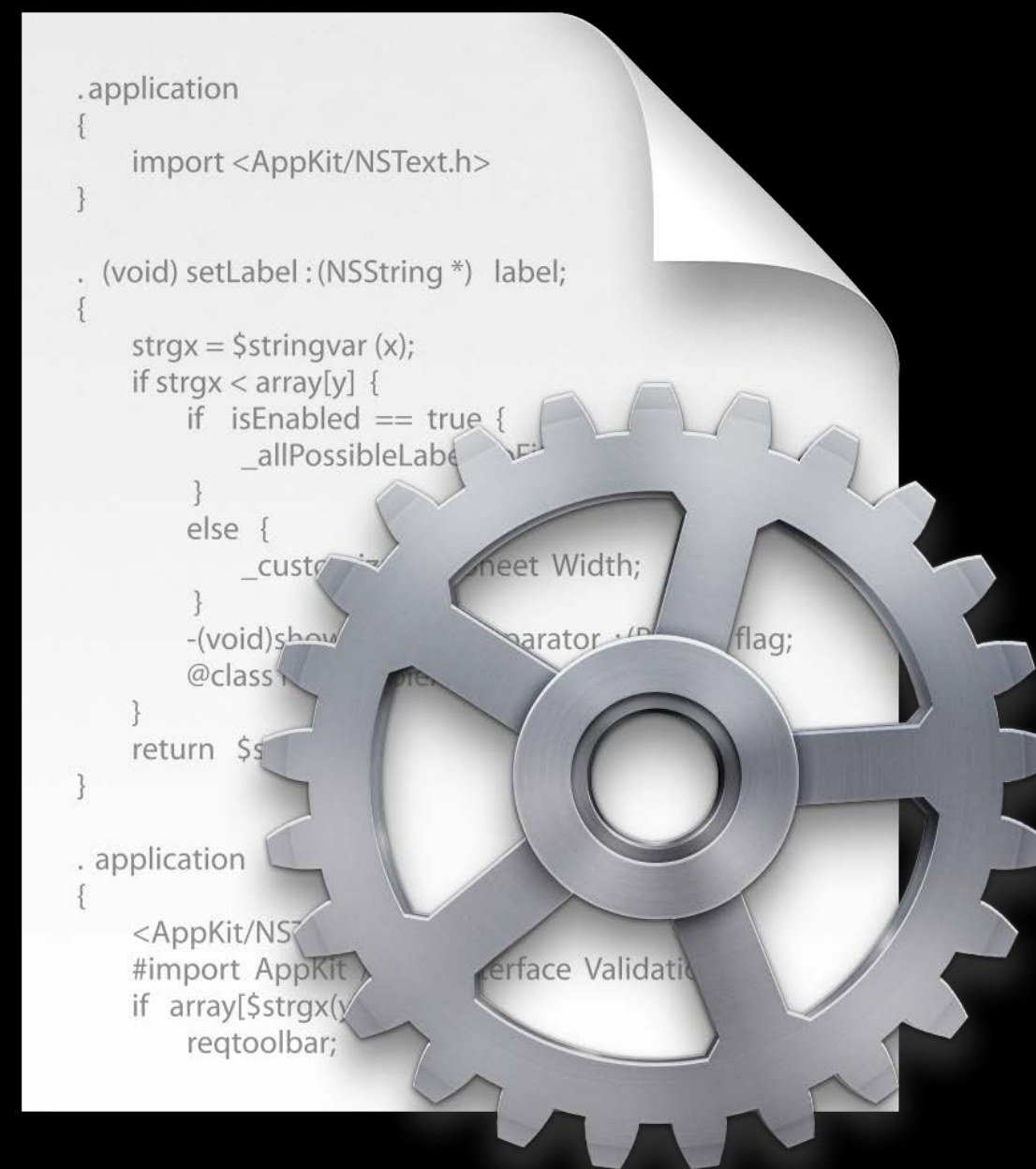
\$(inherited)	non-recursive
/Applications/Xcode6-Beta.app/Contents/Developer/Toolchains/Xcode...	non-recursive
\$(CONFIGURATION_BUILD_DIR)	non-recursive

Unit Testing

Versioning

Apple LLVM 6.0 - Code Generation

Apple LLVM 6.0 - Custom Compiler Flags



Xcode Config

```
iWork — Common.xcconfig
Keynote > Common.xcconfig > No Selection
1 //
2 // Common.xcconfig
3 // iWorkAppShared
4 //
5 // Created by Chris Cowdery-Corvan on 5/26/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 WARNING_CFLAGS = $(value) -Wno-error=unused-function
10
11 HEADER_SEARCH_PATHS = $(inherited) $(CONFIGURATION_BUILD_DIR)
```

Xcode Configuration Files

Parameters

Xcode Configuration Files

Parameters

Header search paths

HEADER_SEARCH_PATHS

Xcode Configuration Files

Parameters

Header search paths

HEADER_SEARCH_PATHS

Compiler warnings

WARNING_CFLAGS

Xcode Configuration Files

Parameters

Header search paths

HEADER_SEARCH_PATHS

Compiler warnings

WARNING_CFLAGS

Architectures

ARCHS

Xcode Configuration Files

Parameters

Header search paths

HEADER_SEARCH_PATHS

Compiler warnings

WARNING_CFLAGS

Architectures

ARCHS

SDKs

SDKROOT

Xcode Configuration Files

Parameters

Header search paths

HEADER_SEARCH_PATHS

Compiler warnings

WARNING_CFLAGS

Architectures

ARCHS

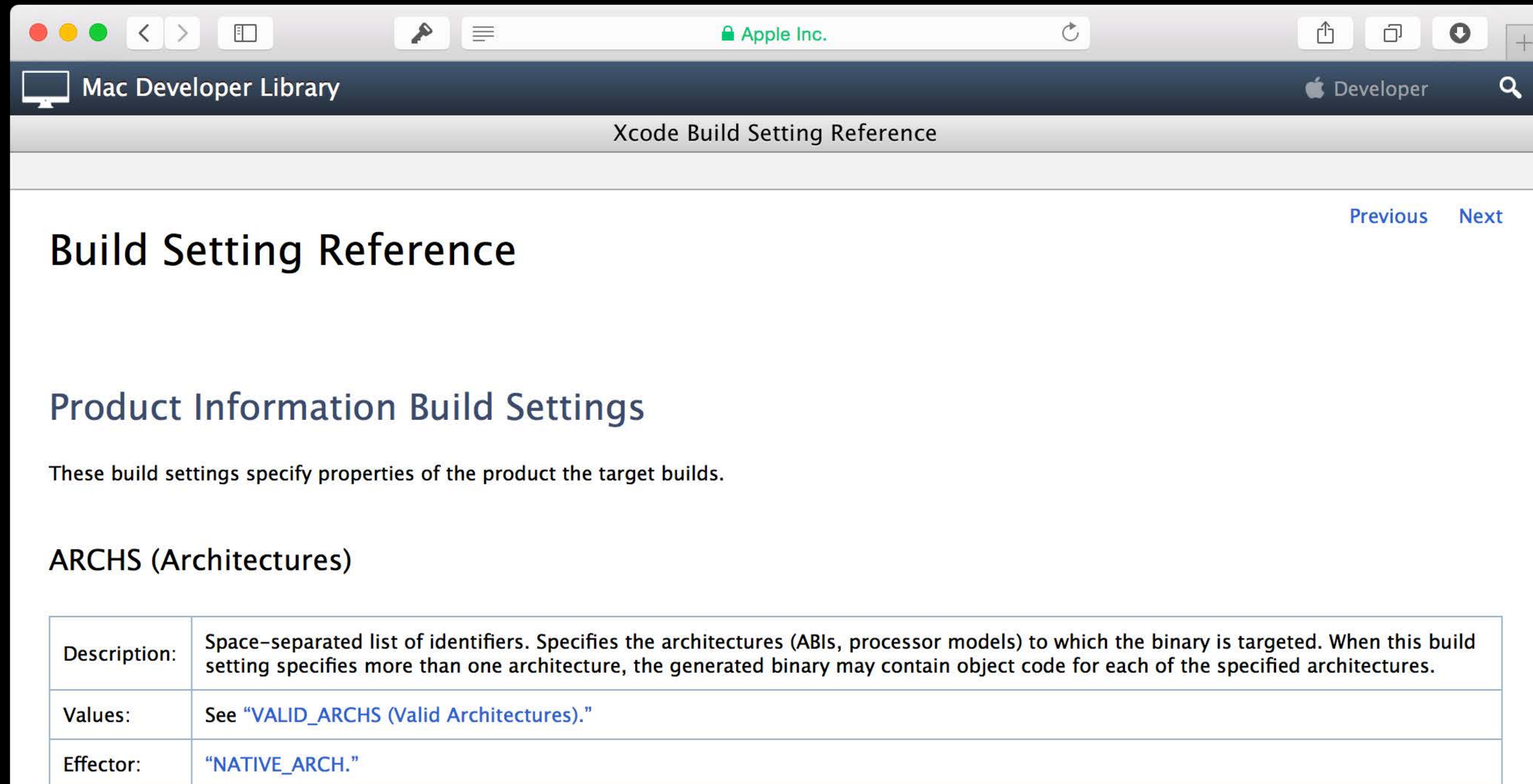
SDKs

SDKROOT

Deployment Targets

MACOSX_DEPLOYMENT_TARGET, IPHONEOS_DEPLOYMENT_TARGET

Xcode Configuration Files



The screenshot shows a web browser window displaying the "Xcode Build Setting Reference" page. The browser's address bar shows "Apple Inc." and the page title is "Xcode Build Setting Reference". The page content includes a navigation bar with "Mac Developer Library" and "Developer" links. The main heading is "Build Setting Reference" with "Previous" and "Next" links. Below this is the section "Product Information Build Settings" with a sub-heading "ARCHS (Architectures)". A table provides details for the ARCHS build setting, including its description, values, and effector.

Mac Developer Library Developer

Xcode Build Setting Reference

[Previous](#) [Next](#)

Build Setting Reference

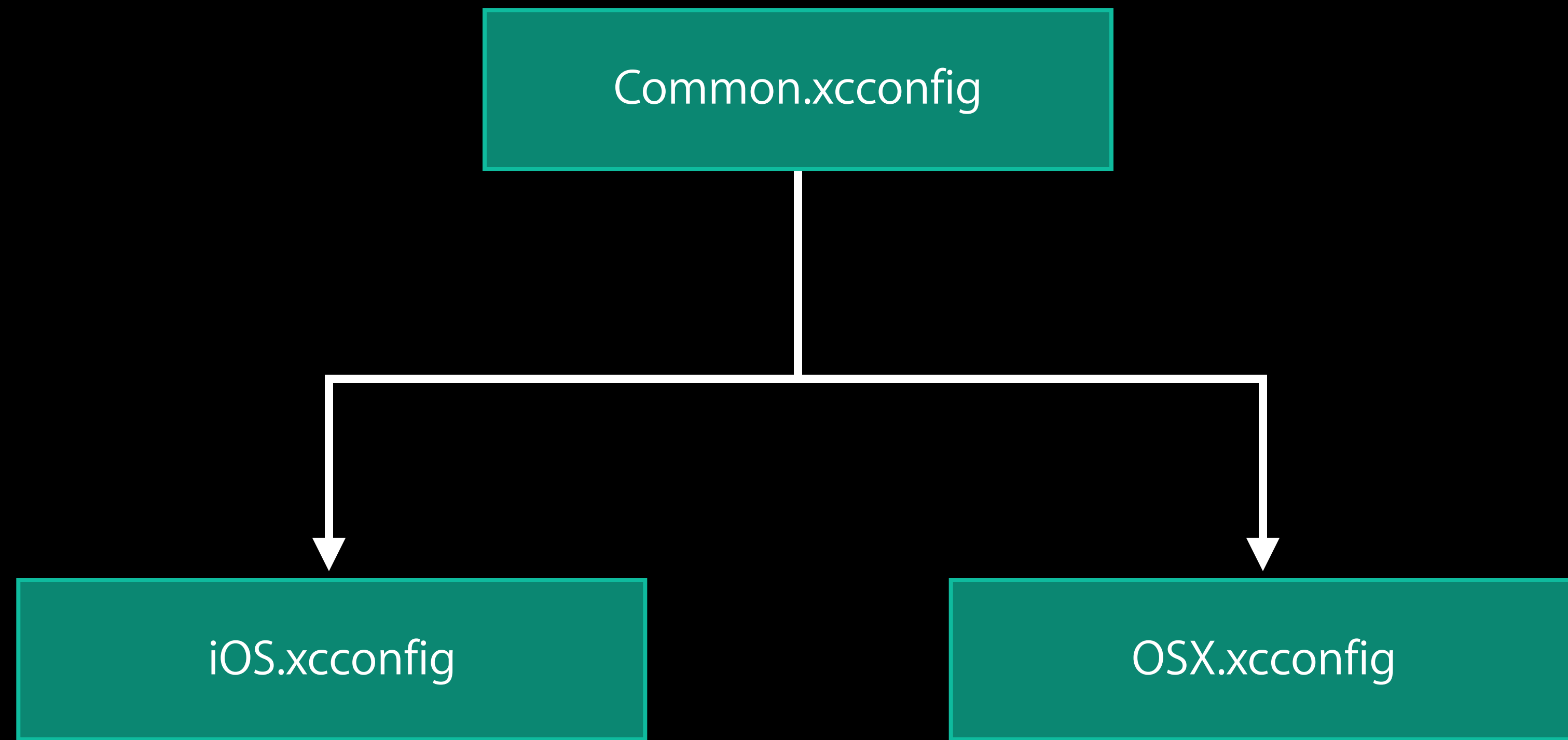
Product Information Build Settings

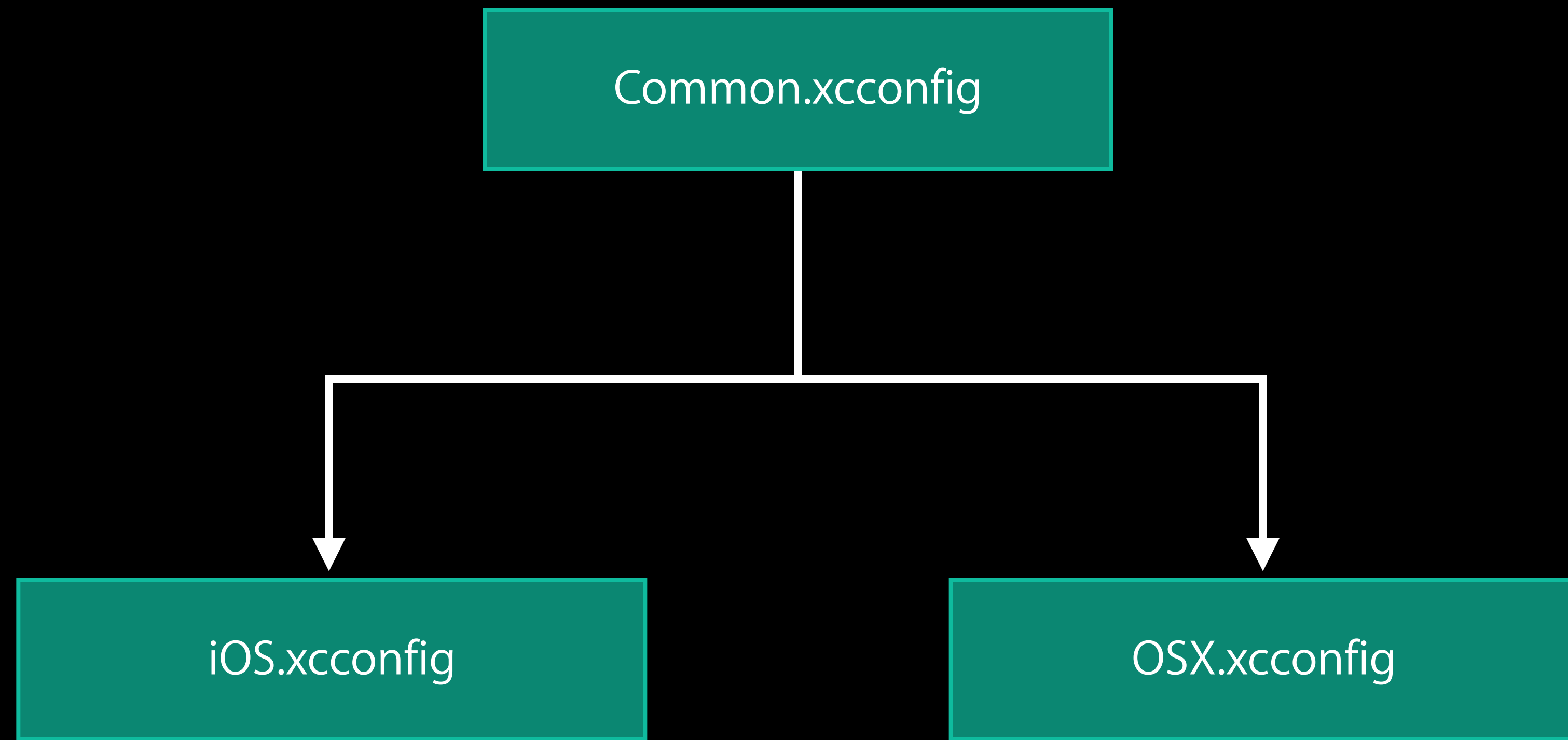
These build settings specify properties of the product the target builds.

ARCHS (Architectures)

Description:	Space-separated list of identifiers. Specifies the architectures (ABIs, processor models) to which the binary is targeted. When this build setting specifies more than one architecture, the generated binary may contain object code for each of the specified architectures.
Values:	See " VALID_ARCHS (Valid Architectures) ."
Effector:	" NATIVE_ARCH ."








Common.xcconfig





iWork | Build Keynote Mac: **Succeeded** | Today at 8:10 PM

Choose a template for your new file:

iOS				
Source	Empty	PCH File	Assembly File	Configuration Settings File
User Interface				
Core Data				
Resource				
Other				
OS X				
Source	Exports File	Metal File	Shell Script	
User Interface				
Core Data				
Resource				
Other				

Configuration Settings File
An empty Xcode configuration settings file.

Cancel Previous Next

App Icons
Source: ApplIcon

Embedded Binaries

iWork | Build Keynote Mac: **Succeeded** | Today at 8:10 PM

Save As:

Tags:

Keynote Mac

Name	Date Modified
AppDelegate.h	Yesterday, 10:5
AppDelegate.m	Today, 9:35 AM
Base.lproj	Today, 2:51 PM
en.lproj	5/29/14, 7:01 P
Images.xcassets	Yesterday, 10:5
Info.plist	Yesterday, 10:5
KNMacDocumentWindowController.h	Today, 6:23 PM
KNMacDocumentWindowController.m	Today, 7:50 PM
main.m	Yesterday, 10:5

Group: Keynote

Targets:

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
- Keynote Mac Tests

New Folder Cancel Create

iWork | Build Keynote Mac: **Succeeded** | Today at 8:10 PM

Save As: ^

Tags:

Keynote Mac

Search

Name	Date Modified
AppDelegate.h	Yesterday, 10:5
AppDelegate.m	Today, 9:35 AM
Base.lproj	Today, 2:51 PM
en.lproj	5/29/14, 7:01 P
Images.xcassets	Yesterday, 10:5
Info.plist	Yesterday, 10:5
KNMacDocumentWindowController.h	Today, 6:23 PM
KNMacDocumentWindowController.m	Today, 7:50 PM
main.m	Yesterday, 10:5

Group:

Targets:

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
- Keynote Mac Tests

New Folder Cancel Create

iWork | Build Keynote Mac: **Succeeded** | Today at 8:10 PM

Save As: ^

Tags:

< >

Name	Date Modified
AppDelegate.h	Yesterday, 10:5
AppDelegate.m	Today, 9:35 AM
Base.lproj	Today, 2:51 PM
en.lproj	5/29/14, 7:01 P
Images.xcassets	Yesterday, 10:5
Info.plist	Yesterday, 10:5
KNMacDocumentWindowController.h	Today, 6:23 PM
KNMacDocumentWindowController.m	Today, 7:50 PM
main.m	Yesterday, 10:5

Group:

Targets:

- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
- Keynote Mac Tests

New Folder Cancel Create

iWork | Build Keynote Mac: **Succeeded** | Today at 8:10 PM

Keynote > Mac.xcconfig > No Selection

- Keynote
 - 4 targets, multiple platforms
 - Mac.xcconfig
 - Common.xcconfig
 - Keynote iOS
 - Keynote iOS Tests
 - Keynote Mac
 - Keynote Mac Tests
 - Frameworks
 - Products
 - iWorkShared.xcodeproj
 - 4 targets, multiple platforms
 - Pages
 - 2 targets, iOS SDK 8.0
 - Numbers
 - 2 targets, iOS SDK 8.0

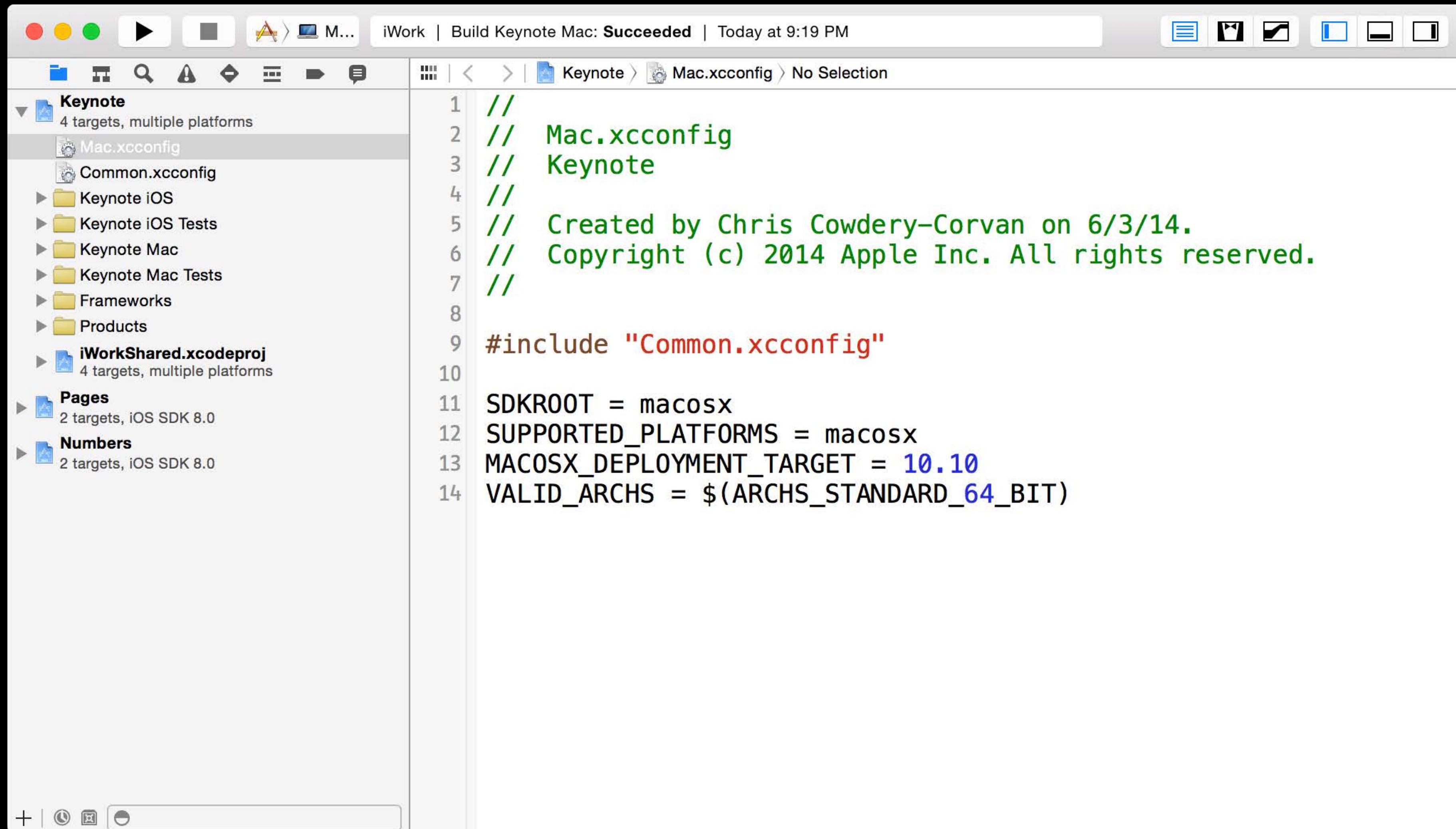
```
1 //  
2 // Mac.xcconfig  
3 // Keynote  
4 //  
5 // Created by Chris Cowdery-Corvan on 6/3/14.  
6 // Copyright (c) 2014 Apple Inc. All rights reserved.  
7 //  
8 |
```

iWork | Build Keynote Mac: **Succeeded** | Today at 8:10 PM

Keynote > Mac.xcconfig > No Selection

- Keynote
 - 4 targets, multiple platforms
 - Mac.xcconfig
 - Common.xcconfig
 - Keynote iOS
 - Keynote iOS Tests
 - Keynote Mac
 - Keynote Mac Tests
 - Frameworks
 - Products
 - iWorkShared.xcodeproj
 - 4 targets, multiple platforms
- Pages
 - 2 targets, iOS SDK 8.0
- Numbers
 - 2 targets, iOS SDK 8.0

```
1 //
2 // Mac.xcconfig
3 // Keynote
4 //
5 // Created by Chris Cowdery-Corvan on 6/3/14.
6 // Copyright (c) 2014 Apple Inc. All rights reserved.
7 //
8
9 #include "Common.xcconfig"
```



iWork | Build Keynote Mac: **Succeeded** | Today at 8:10 PM

Keynote
4 targets, multiple platforms

- iOS.xcconfig
- Mac.xcconfig
- Common.xcconfig
- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj**
4 targets, multiple platforms
- Pages**
2 targets, iOS SDK 8.0
- Numbers**
2 targets, iOS SDK 8.0

PROJECT
Keynote

TARGETS

- Keynote iOS
- Keynote iOS T...
- Keynote Mac
- Keynote Mac T...

Info Build Settings

- Deployment Target
- Configurations
- Localizations

iWork | Build Keynote Mac: **Succeeded** | Today at 8:10 PM

Keynote
4 targets, multiple platforms

- iOS.xcconfig
- Mac.xcconfig
- Common.xcconfig
- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj**
4 targets, multiple platforms
- Pages**
2 targets, iOS SDK 8.0
- Numbers**
2 targets, iOS SDK 8.0

PROJECT
Keynote

TARGETS

- Keynote iOS
- Keynote iOS T...
- Keynote Mac
- Keynote Mac T...

Info Build Settings

Deployment Target

Configurations

Name	Based on Configuration File
▶ Debug	No Configurations Set
▶ Release	No Configurations Set

+ -

Use for command-line builds

Localizations

iWork | Build Keynote Mac: **Succeeded** | Today at 8:10 PM

Keynote

4 targets, multiple platforms

- iOS.xcconfig
- Mac.xcconfig
- Common.xcconfig
- Keynote iOS
- Keynote iOS Tests
- Keynote Mac
- Keynote Mac Tests
- Frameworks
- Products
- iWorkShared.xcodeproj
4 targets, multiple platforms
- Pages
2 targets, iOS SDK 8.0
- Numbers
2 targets, iOS SDK 8.0

PROJECT

Keynote

TARGETS

- Keynote iOS
- Keynote iOS T...
- Keynote Mac
- Keynote Mac T...

Deployment Target

Configurations

Name	Based on Configuration File
▼ Debug	4 Configurations Set
▼ Keynote	None
Keynote iOS	iOS
Keynote iOS Tests	iOS
Keynote Mac	Mac
Keynote Mac Tests	Mac
▼ Release	4 Configurations Set
▼ Keynote	None
Keynote iOS	iOS
Keynote iOS Tests	iOS
Keynote Mac	Mac
Keynote Mac Tests	Mac

Use **Release** for command-line builds

Localizations

iWork | Build Keynote Mac: **Succeeded** | Today at 9:19 PM

Keynote

General Capabilities Info **Build Settings** Build Phases Build Rules

Basic **All** | Combined **Levels** | +

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

Search

▼ Architectures

Setting	Resolved	Keynote Mac	Config.File (Mac.xcconfig)	Keynote	OS X Default
Additional SDKs					
Architectures	Standard Architectures			Standard	
Base SDK	Latest OS X (OS X 10.10)	Latest OS X (OS X 10.10)	Latest iOS (i...)		
▼ Build Active Architecture Only	<Multiple values>		<Multiple va...>	No	
Debug	Yes		Yes	No	
Release	No			No	
Supported Platforms	OS X	OS X		OS X	
Valid Architectures	x86_64	x86_64		i386 x86_64	

▼ Build Locations

Setting	Resolved	Keynote Mac	Config.File (Mac.xcconfig)	Keynote	OS X Default
Build Products Path	build			build	
Intermediate Build Files Path	build			build	
▼ Per-configuration Build Products Path	<Multiple values>			build	
Debug	build/Debug			build	
Release	build/Release			build	
▼ Per-configuration Intermediate Build Files Path	<Multiple values>			build/.build	
Debug	build/Keynote.build/Debug			build/.build	
Release	build/Keynote.build/Rel...			build/.build	
Precompiled Headers Cache Path	/var/folders/pb/htf521m...			/var/folders/pb/...	

▼ Build Options

iWork | Build Keynote Mac: **Succeeded** | Today at 9:19 PM

Keynote

General Capabilities Info **Build Settings** Build Phases Build Rules

PROJECT
Keynote

TARGETS
Keynote iOS
Keynote iOS T...
Keynote Mac
Keynote Mac T...

Basic **All** | Combined **Levels** | +

▼ Architectures

Setting	Resolved	Keynote M
Additional SDKs		
Architectures	Standard Architectures	
Base SDK	Latest OS X (OS X 10.10)	
▼ Build Active Architecture Only	<Multiple values>	
Debug	Yes	
Release	No	
Supported Platforms	OS X	
Valid Architectures	x86_64	

▼ Build Locations

Setting	Resolved	Keynote M
Build Products Path	build	
Intermediate Build Files Path	build	
▼ Per-configuration Build Products Path	<Multiple values>	
Debug	build/Debug	
Release	build/Release	
▼ Per-configuration Intermediate Build Files Path	<Multiple values>	
Debug	build/Keynote.build/Debug	
Release	build/Keynote.build/Rel...	
Precompiled Headers Cache Path	/var/folders/pb/htf521m...	

▼ Build Options

Config.File (Mac.xcconfig)

Latest OS X (OS X 10.10)

OS X

x86_64

Config.File (Mac.xcconfig)

build

build

build

build

build

build/.build

build/.build

build/.build

/var/folders/pb/...

Slides

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

+

There's so much to see and do.



Explore by land.
Discover miles of hiking trails and encounter dozens of unique plant and animal species.

Explore by sea.
Paddle through hidden coves and tiptoe through tidal pools. Both are home to a wide variety of sea life.



Cross-platform Projects

Summary

Cross-platform Projects

Summary

Make a target for each platform

Cross-platform Projects

Summary

Make a target for each platform

Break common logic into libraries and frameworks

Cross-platform Projects

Summary

Make a target for each platform

Break common logic into libraries and frameworks

Use same header directories

Cross-platform Projects

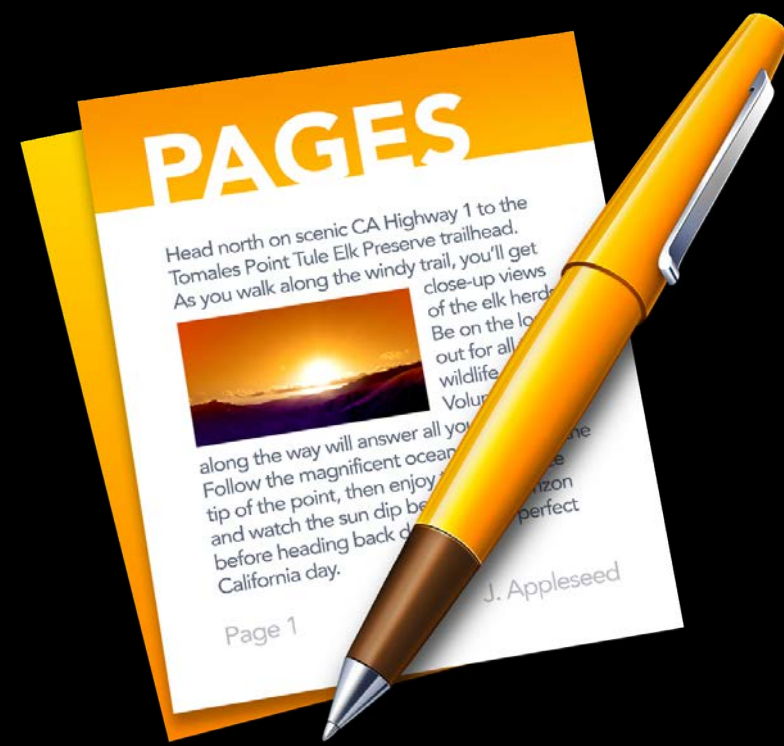
Summary

Make a target for each platform

Break common logic into libraries and frameworks

Use same header directories

Incorporate Xcode config files





Related Sessions

-
- | | | |
|---------------------------------------|-----------|------------------|
| ● Building a Document-based App | Marina | Thursday 11:30AM |
| ● Building Modern Frameworks | Presidio | Thursday 3:15PM |
| ● Best Practices for Color Management | WWDC 2012 | Online |
-

Labs

-
- Color Management Lab

Graphics and Games Friday 10:15AM

More Information

Jake Behrens

App Frameworks Evangelist

behrens@apple.com

Dave DeLong

App Frameworks Evangelist

delong@apple.com

Apple Developer Forums

<http://devforums.apple.com>

 WWDC14