

What's New in International User Interfaces

Session 232

Joaquim Lobo Silva Internationalization Software Engineer

Sara Radi Internationalization Software Engineer

German Swedish Vietnamese Thai Slovak Japanese
English French Italian Spanish Turkish Malay
Chinese Arabic Finnish Indonesian Korean US English
Dutch Greek Danish Norwegian Catalan Polish
Romanian Russian Simplified Chinese Hebrew
Hungarian European Portuguese British English
Traditional Chinese Czech Ukrainian Brazilian Portuguese

German Swedish Vietnamese Thai Slovak Japanese
English French Italian Spanish Turkish Malay
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German Swedish Vietnamese Thai Slovak Japanese
English French Italian Spanish Turkish Malay
Chinese Arabic Finnish Indonesian Korean US English
Dutch Greek Danish Norwegian Catalan Polish
Romanian Russian Simplified Chinese Hebrew
Hungarian European Portuguese British English
Traditional Chinese Czech Ukrainian Brazilian Portuguese

400

Million



Marhaba 29.10.15
A collaboration with master calligrapher
Samir Sayegh, extending our first hello
to the city of Abu Dhabi.

مرحباً 29.10.15
أولى تحياتنا لمدينة أبو ظبي،
بالتعاون مع الخطاط والفنان،
سمير الصايغ.



اشتر

مزيد مما تحب

الطابع الشخصي

الصحة

اللياقة

الإشعارات

الإشعارات كي لا يفوتك ما يهّمك.

لأنها على معصمك، تسمح لك Apple Watch باستقبال الإشعارات في الحال، وبطريقة عملية، فتشعر بذبذبة خفيفة فور وصول إشعار من تطبيقاتك المفضلة أو من الأشخاص الذين يهتمونك، ثم ترسل الرد المناسب، بكل بساطة.

اعرف المزيد عن الإشعارات >



Related Sessions

Related Sessions

Inclusive App Design

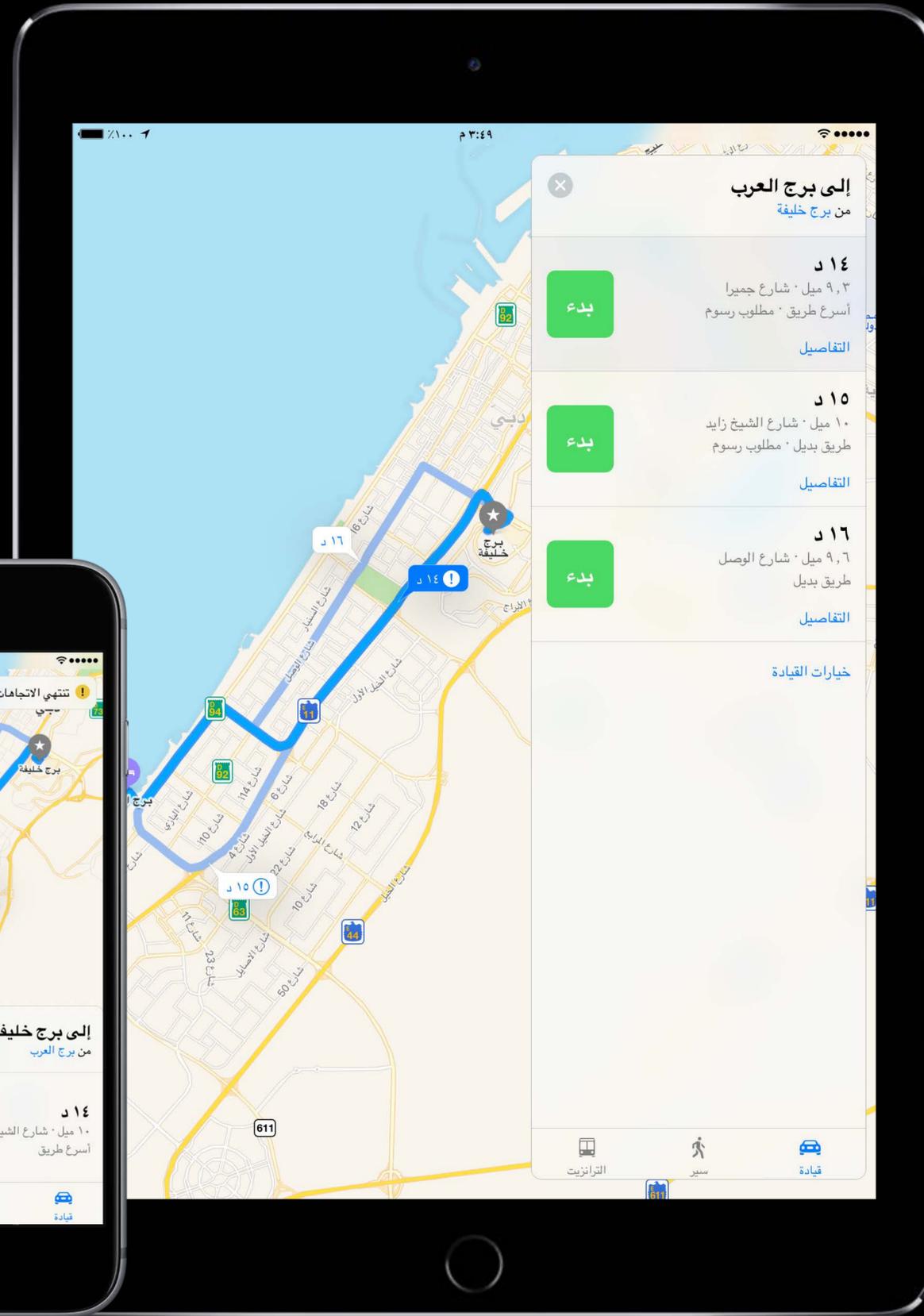
Pacific Heights

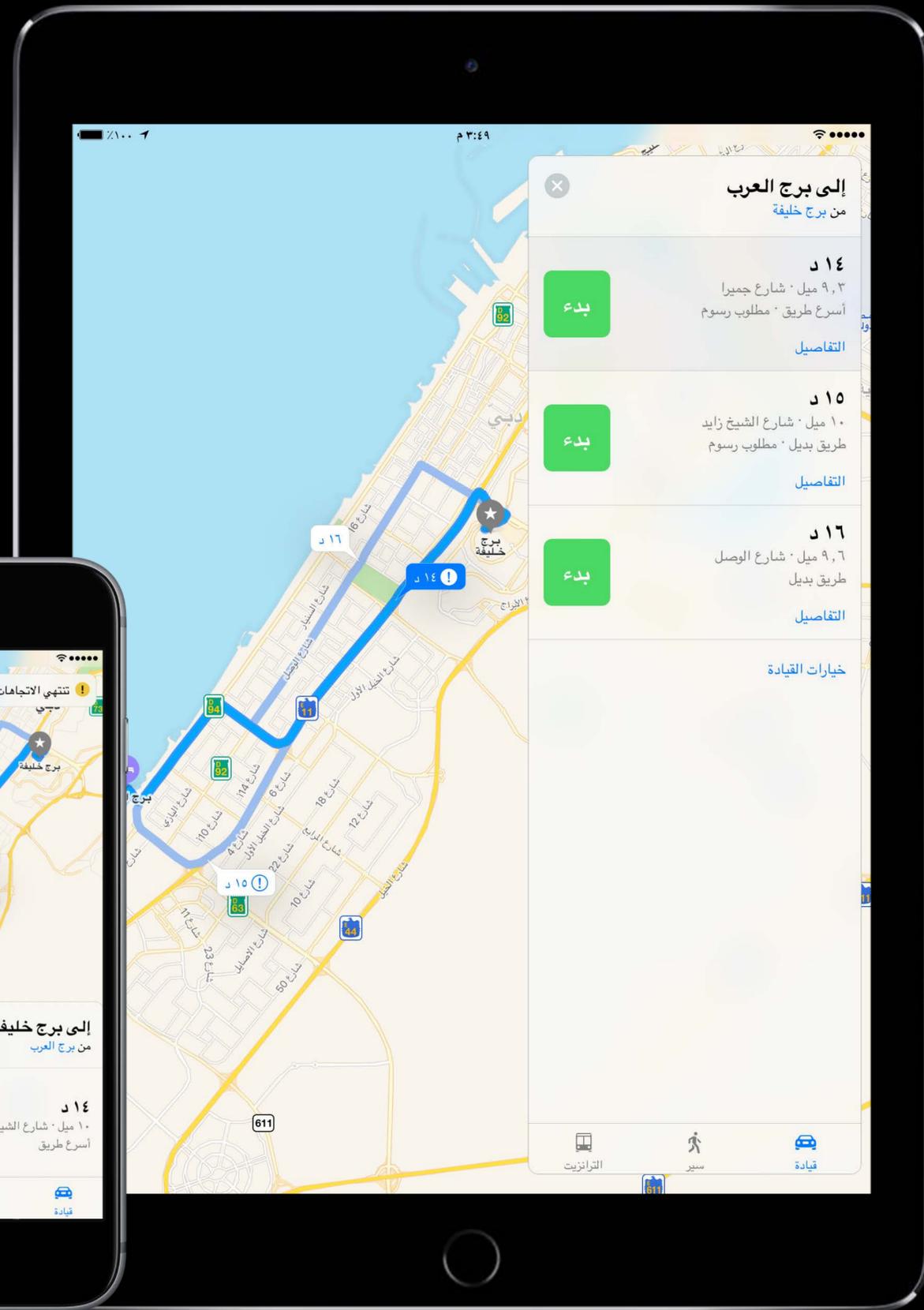
Tuesday 10:00AM

Internationalization Best Practices

Mission

Tuesday 9:00AM





الخرائط ملف تحرير عرض نافذة مساعدة

إلى أين تريد أن تذهب؟

الالاتجاهات

البدائية: برج خليفة، دبي، الإمارات العربية
النهاية: برج العرب

قيادة سير الترانزيت

١ من ٣ من الطرق المقترحة
١٤ د — ٩,٣ من الأميال — شارع جميرا

برج خليفة، دبي، الإمارات العربية المتحدة

٣٠٠ قدم
اتجه يميناً على بوليفارد محمد بن راشد

٠,٤ من الأميال
اتجه يساراً على شارع المركز المالي

٠,٣ من الأميال
خذ منعطفًا بسيطًا لليمين للاندماج على شارع الشيخ زايد

٦٠٠ قدم
ابق على اليمين للاندماج على E11 باتجاه جبل علي، أبوظبي

٤,٧ من الأميال
خذ المخرج 43 باتجاه D65، شارع المنارة

٠,٢ من الأميال
ابق على اليمين على D65 باتجاه شارع المنارة، جميرا

١,٣ من الأميال
اتجه يساراً على شارع جميرا

١,٩ من الأميال
اتجه يميناً

٠,٣ من الأميال
الوجهة على يمينك

إظهار

3D

قمر صناعي الترانزيت خريطة

كرن مشيرا م ثلاثاء ٣:٤٩ م

MacBook

Agenda

Agenda

Right-to-Left (RTL) User Interface Concepts and Recap

Agenda

Right-to-Left (RTL) User Interface Concepts and Recap

Handling Images

Agenda

Right-to-Left (RTL) User Interface Concepts and Recap

Handling Images

Evaluating Layout Direction

Agenda

Right-to-Left (RTL) User Interface Concepts and Recap

Handling Images

Evaluating Layout Direction

RTL UI in watchOS

Agenda

Right-to-Left (RTL) User Interface Concepts and Recap

Handling Images

Evaluating Layout Direction

RTL UI in watchOS

What's New in macOS

Agenda

Right-to-Left (RTL) User Interface Concepts and Recap

Handling Images

Evaluating Layout Direction

RTL UI in watchOS

What's New in macOS

Text Support: Handling Bidirectional Text

iOS

iOS

Recap

iOS

Recap

Supporting right-to-left languages

- Since iOS 9



iOS

Recap

Supporting right-to-left languages

- Since iOS 9
- Standard UIKit controls adapt out of the box



iOS

Recap

Supporting right-to-left languages

- Since iOS 9
- Standard UIKit controls adapt out of the box
- Auto Layout



iOS

Recap

Supporting right-to-left languages

- Since iOS 9
- Standard UIKit controls adapt out of the box
- Auto Layout
 - Stack View



iOS

Recap

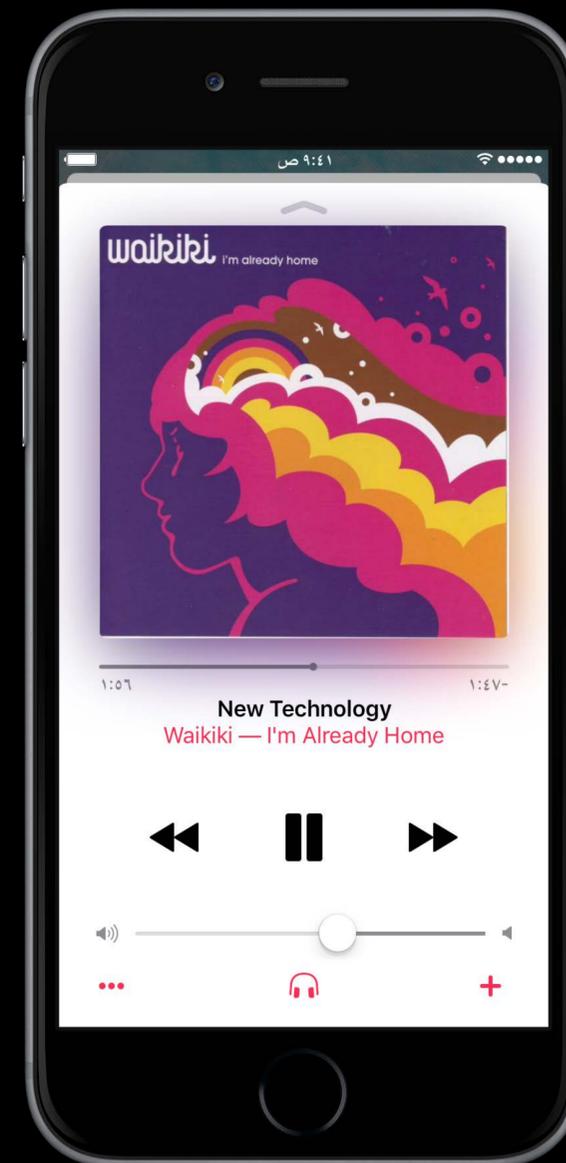
Supporting right-to-left languages

- Since iOS 9
- Standard UIKit controls adapt out of the box
- Auto Layout
 - Stack View
 - Leading/Trailing Constraints



iOS

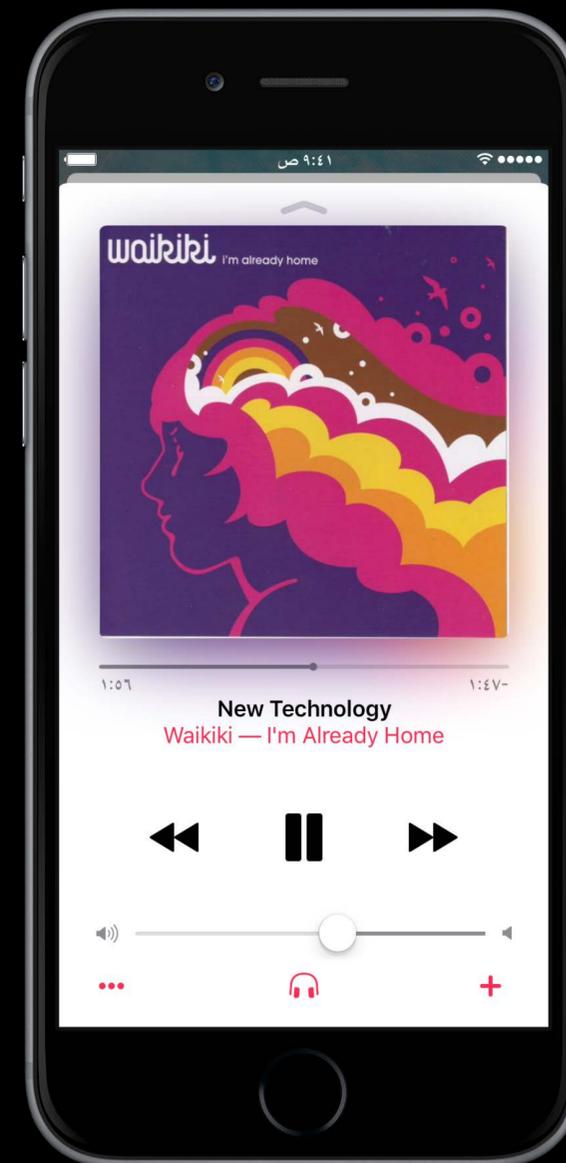
Recap



iOS

Recap

Some UI stays the same across layout directions



iOS

Recap

Some UI stays the same across layout directions



iOS

Recap

Some UI stays the same across layout directions

- Semantic Content Attribute



iOS

Recap

Some UI stays the same across layout directions

- Semantic Content Attribute
- For determining and fine-tuning layout flow



iOS

Recap

Some UI stays the same across layout directions

- Semantic Content Attribute
- For determining and fine-tuning layout flow
- `enum UISemanticContentAttribute`



iOS

Recap

Some UI stays the same across layout directions

- Semantic Content Attribute
- For determining and fine-tuning layout flow
- `enum UISemanticContentAttribute`
 - `playback`



iOS

Recap

Some UI stays the same across layout directions

- Semantic Content Attribute
- For determining and fine-tuning layout flow
- `enum UISemanticContentAttribute`
 - `playback`
 - `spatial`



iOS

Recap

Some UI stays the same across layout directions

- Semantic Content Attribute
- For determining and fine-tuning layout flow
- `enum UISemanticContentAttribute`
 - `playback`
 - `spatial`
 - `forceLeftToRight`, `forceRightToLeft`



iOS

Recap

Some UI stays the same across layout directions

- Semantic Content Attribute
- For determining and fine-tuning layout flow
- `enum UISemanticContentAttribute`
 - `playback`
 - `spatial`
 - `forceLeftToRight, forceRightToLeft`
 - `unspecified`



iOS

Recap

Some UI stays the same across layout directions

- Semantic Content Attribute
- For determining and fine-tuning layout flow
- `enum UISemanticContentAttribute`
 - `playback`
 - `spatial`
 - `forceLeftToRight, forceRightToLeft`
 - `unspecified`

iOS

Images

iOS

Images



Universal

iOS

Images



Universal

UIImage or
Interface Builder

iOS

Images



Universal

UIImage or
Interface Builder



Mirrored

iOS

Images



Universal

UIImage or
Interface Builder



Mirrored

iOS

Images



Universal

UIImage or
Interface Builder



Mirrored

```
imageFlippedForRightToLeftLayoutDirection()
```

iOS Images



Universal

UIImage or
Interface Builder



Mirrored

```
imageFlippedForRightToLeftLayoutDirection()
```



Dedicated

iOS Images



Universal

UIImage or
Interface Builder



Mirrored

```
imageFlippedForRightToLeftLayoutDirection()
```



Dedicated

iOS

Images



Universal

UIImage or
Interface Builder



Mirrored

```
imageFlippedForRightToLeftLayoutDirection()
```



Dedicated

iOS

Images



Universal

UIImage or
Interface Builder



Mirrored

```
imageFlippedForRightToLeftLayoutDirection()
```



Dedicated

Runtime check

iOS Images



Universal

UIImage or
Interface Builder



Mirrored

```
imageFlippedForRightToLeftLayoutDirection()
```



Dedicated

Runtime check

iOS Images

NEW



Universal



Mirrored

UIImage or
Interface Builder



Dedicated

iOS Images

NEW



Universal



Mirrored



Dedicated

Directional Image Assets

iOS Images

NEW

iOS

Images

Image Asset Directions

NEW

iOS Images

NEW

Image Asset Directions

The screenshot shows the configuration for an image set in Xcode. The settings are as follows:

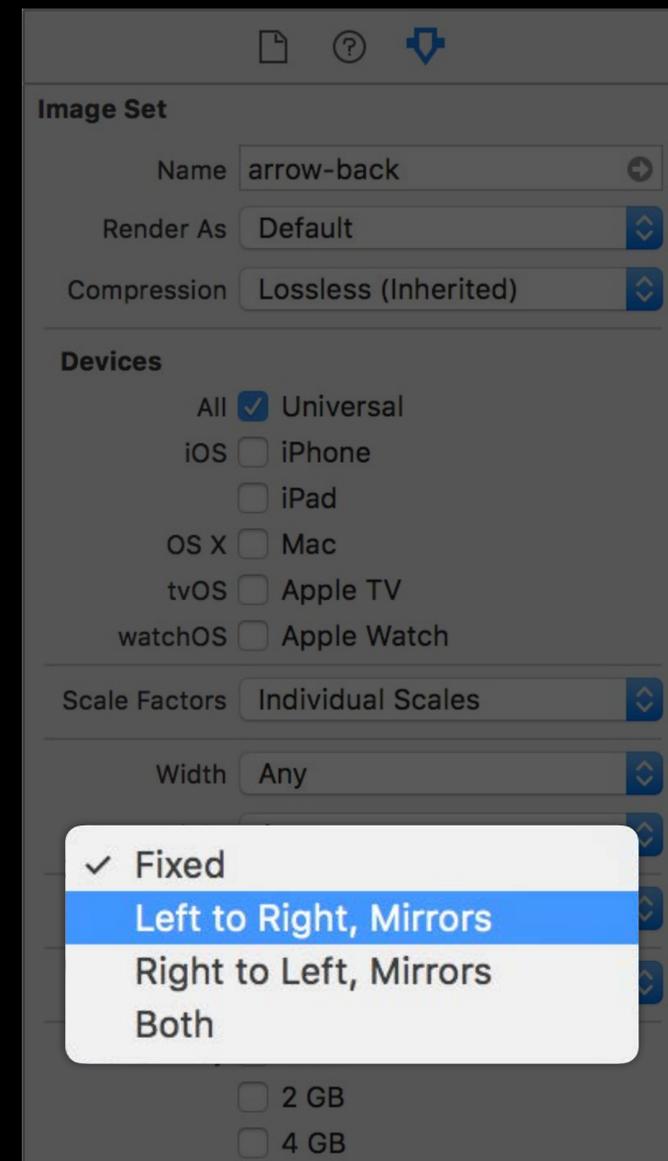
- Image Set**
 - Name: arrow-back
 - Render As: Default
 - Compression: Lossless (Inherited)
- Devices**
 - All: Universal
 - iOS: iPhone, iPad
 - OS X: Mac
 - tvOS: Apple TV
 - watchOS: Apple Watch
- Scale Factors: Individual Scales
- Width: Any
- Height: Any
- Direction: Fixed
- Color: Any
- Memory: 1 GB, 2 GB, 4 GB

iOS Images

NEW

Image Asset Directions

- Fixed

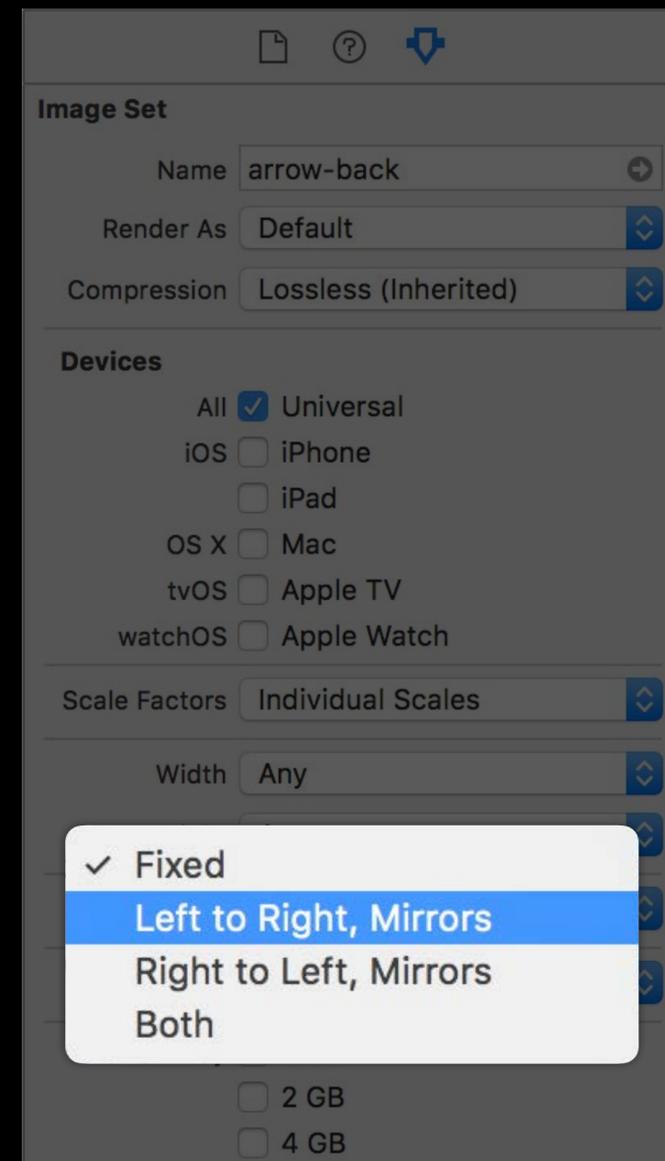


iOS Images

NEW

Image Asset Directions

- Fixed
- Left to Right or Right to Left, Mirrors

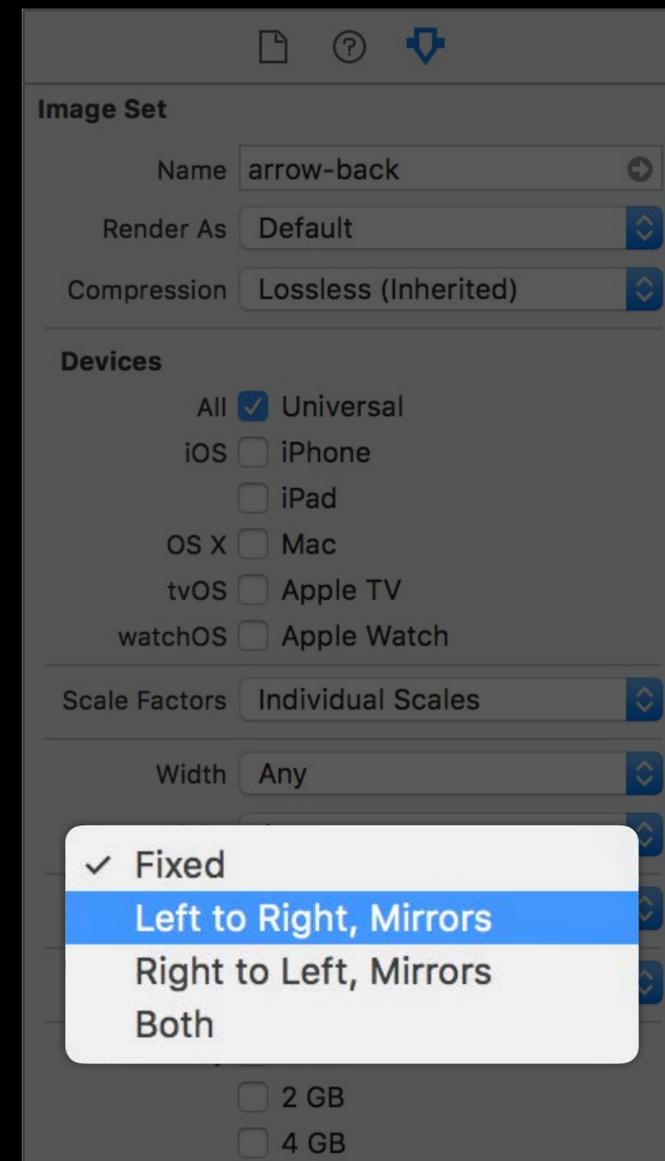


iOS Images

NEW

Image Asset Directions

- Fixed
- Left to Right or Right to Left, Mirrors
- Both (dedicated for each direction)



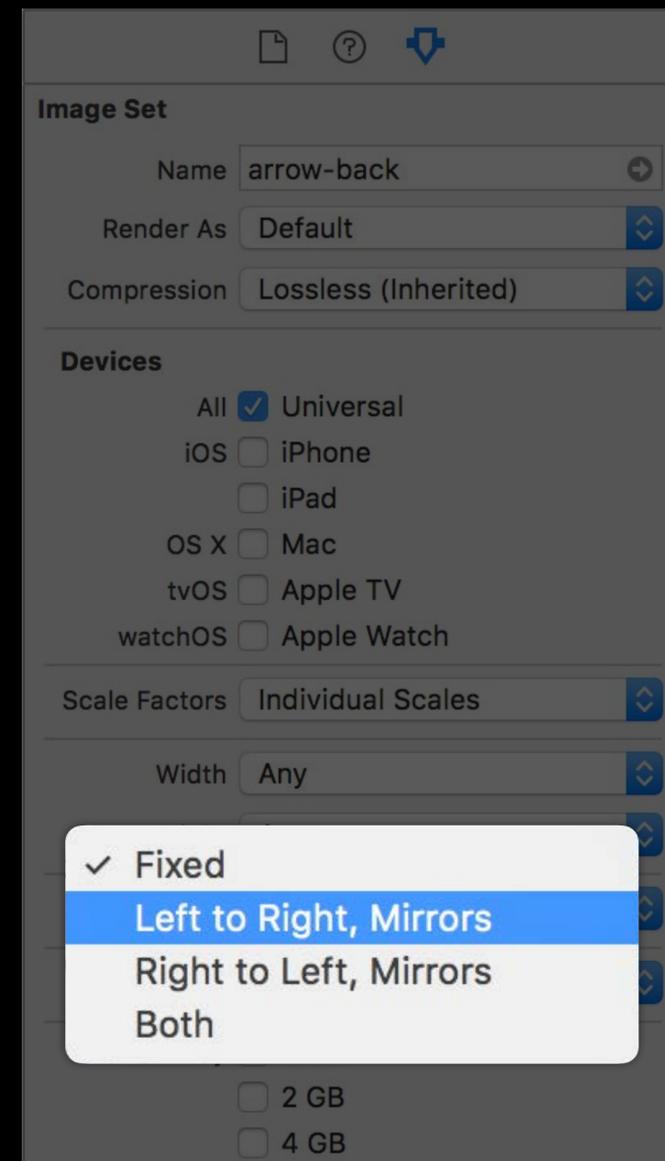
iOS Images

NEW

Image Asset Directions

- Fixed
- Left to Right or Right to Left, Mirrors
- Both (dedicated for each direction)

Loads the correct image from the asset



iOS Images

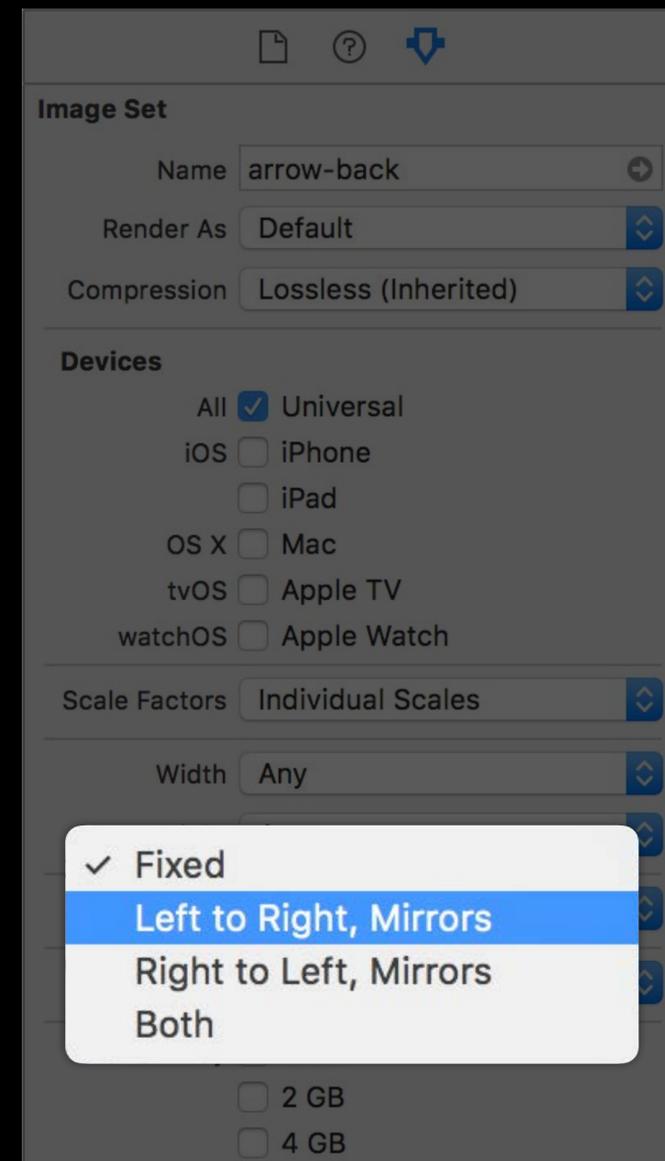
NEW

Image Asset Directions

- Fixed
- Left to Right or Right to Left, Mirrors
- Both (dedicated for each direction)

Loads the correct image from the asset

- From Interface Builder



iOS

Images

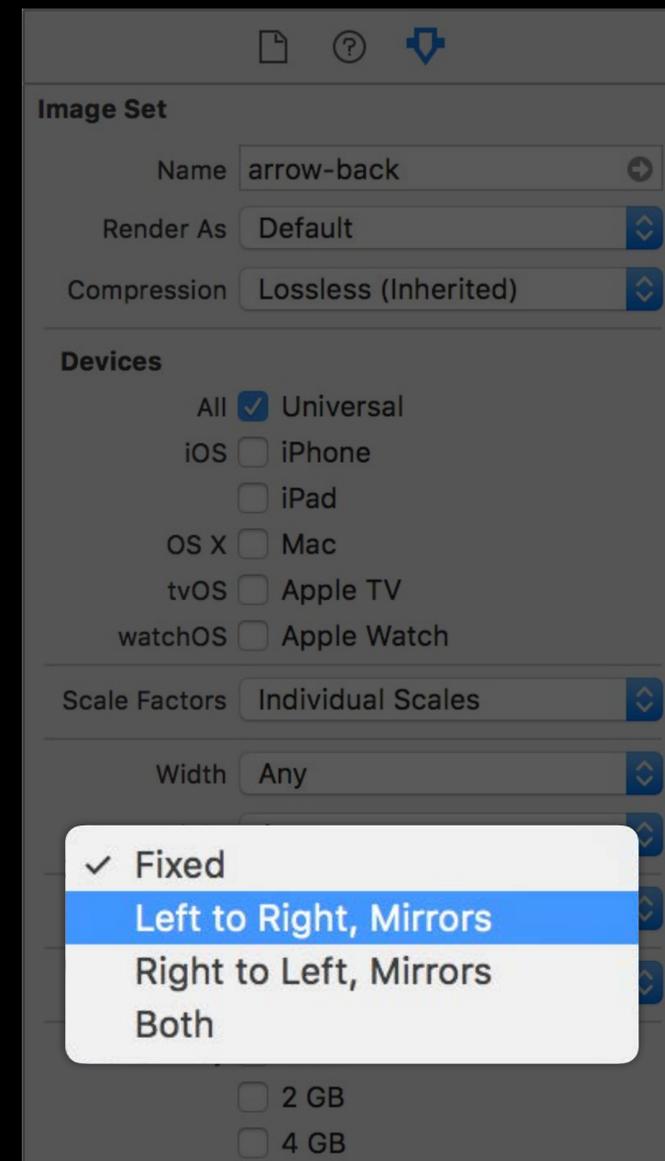
NEW

Image Asset Directions

- Fixed
- Left to Right or Right to Left, Mirrors
- Both (dedicated for each direction)

Loads the correct image from the asset

- From Interface Builder
- From `UIImage.init(named:)`



Demo

Directional Images

iOS

Using assets in code

NEW

iOS

Using assets in code

Register left-to-right and right-to-left counterparts

NEW

iOS

NEW

Using assets in code

Register left-to-right and right-to-left counterparts

- For images not stored locally

iOS

NEW

Using assets in code

Register left-to-right and right-to-left counterparts

- For images not stored locally
- Associate images with trait collections

iOS

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Using assets in code

Register left-to-right and right-to-left counterparts

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- Convenience method on UIImage for mirroring orientations

iOS

NEW

Using assets in code

Register left-to-right and right-to-left counterparts

- For images not stored locally
- Associate images with trait collections
- Convenience method on UIImage for mirroring orientations

- `UIImage.imageWithHorizontallyFlippedOrientation()`

```
// Registering assets at runtime
let asset = UIImageAsset()
let ltrImage = fetchRemoteImage()
let rtlImage = ltrImage.imageWithHorizontallyFlippedOrientation()

// Register the images in the asset
asset.register(ltrImage, with: UITraitCollection(layoutDirection: .leftToRight))
asset.register(rtlImage, with: UITraitCollection(layoutDirection: .rightToLeft))

// Set the image on an image view
imageView.image = asset.image(with: imageView.traitCollection)
```

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```

iOS

Directional images

NEW

iOS

Directional images

Same familiar asset mechanism

NEW

iOS

Directional images

Same familiar asset mechanism

New trait

`UITraitEnvironmentLayoutDirection`

NEW

iOS

NEW

Directional images

Same familiar asset mechanism

New trait

`UITraitEnvironmentLayoutDirection`

- Affects layout evaluation with Semantic Content Attribute

iOS

NEW

Directional images

Same familiar asset mechanism

New trait

`UITraitEnvironmentLayoutDirection`

- Affects layout evaluation with Semantic Content Attribute

Layout

iOS

NEW

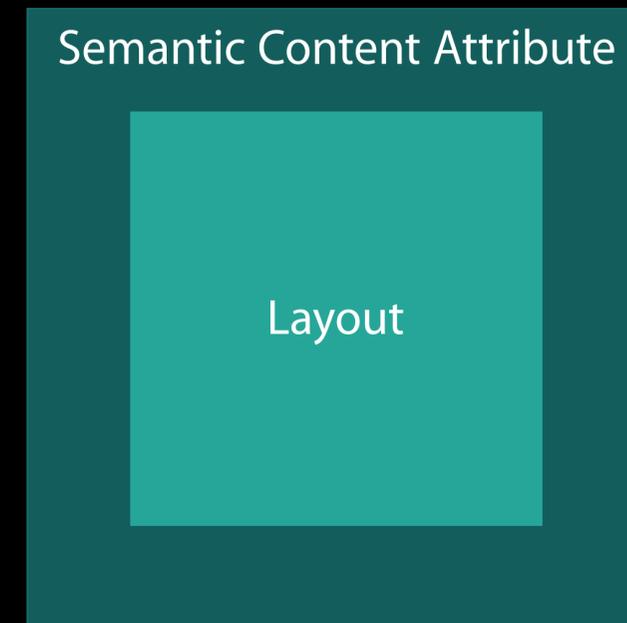
Directional images

Same familiar asset mechanism

New trait

`UITraitEnvironmentLayoutDirection`

- Affects layout evaluation with Semantic Content Attribute



iOS

NEW

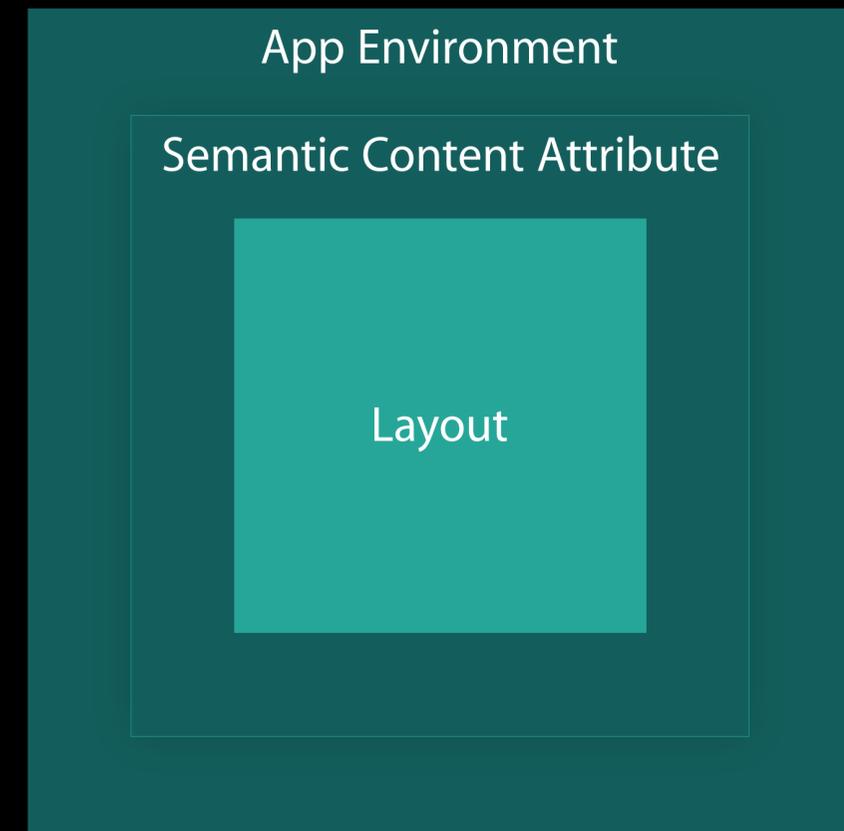
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iOS

Directional images

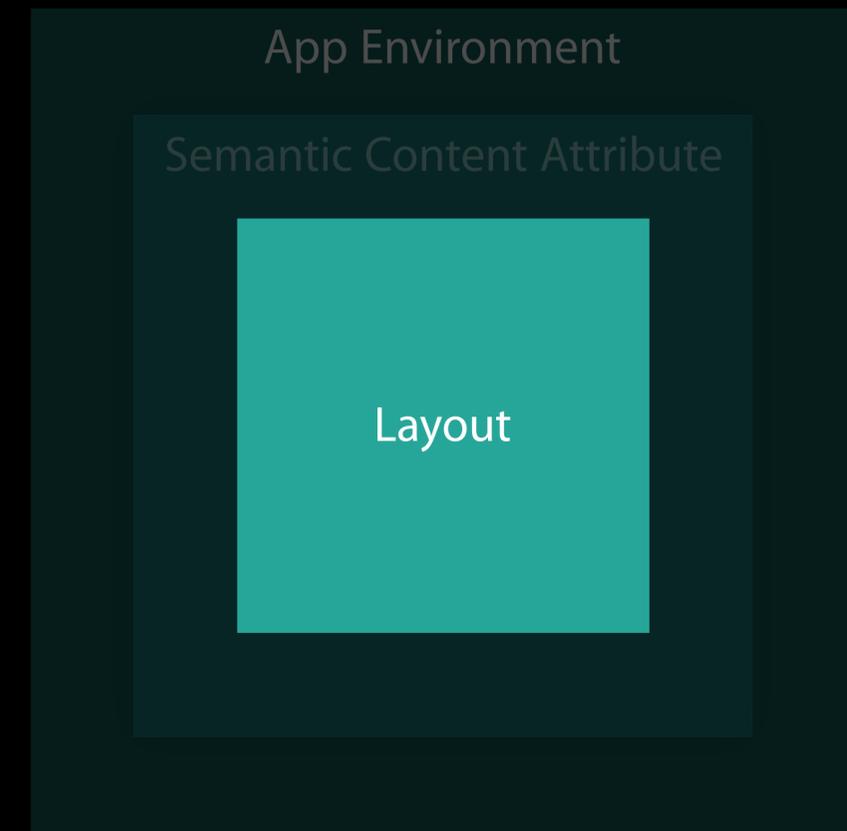
Same familiar asset mechanism

New trait

`UITraitEnvironmentLayoutDirection`

- Affects layout evaluation with Semantic Content Attribute

NEW



iOS

NEW

Directional images

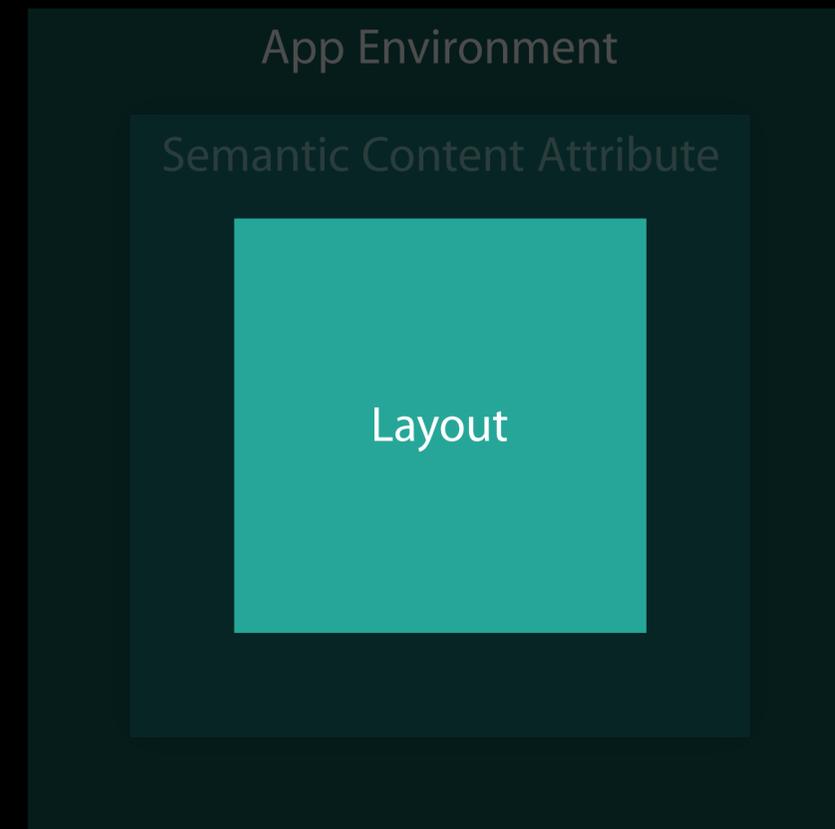
Same familiar asset mechanism

New trait

`UITraitEnvironmentLayoutDirection`

- Affects layout evaluation with Semantic Content Attribute

`UIView.effectiveUserInterfaceLayoutDirection`



iOS

NEW

Directional images

Same familiar asset mechanism

New trait

`UITraitEnvironmentLayoutDirection`

- Affects layout evaluation with Semantic Content Attribute

`UIView.effectiveUserInterfaceLayoutDirection`

`UIView.userInterfaceLayoutDirection(for:relativeTo:)`

iOS

Summary

iOS

Summary

Directional Image Assets

iOS

Summary

Directional Image Assets

- Ready for use with Interface Builder and UIImage

iOS

Summary

Directional Image Assets

- Ready for use with Interface Builder and UIImage
- Ability to register remote images as part of assets

iOS

Summary

Directional Image Assets

- Ready for use with Interface Builder and UIImage
- Ability to register remote images as part of assets
- `imageFlippedForRightToLeftLayoutDirection()` deprecated in iOS 10

iOS

Summary

Directional Image Assets

- Ready for use with Interface Builder and UIImage
- Ability to register remote images as part of assets
- `imageFlippedForRightToLeftLayoutDirection()` deprecated in iOS 10

Convenience property on UIView for effective layout direction

iOS

Summary

Directional Image Assets

- Ready for use with Interface Builder and UIImage
- Ability to register remote images as part of assets
- `imageFlippedForRightToLeftLayoutDirection()` deprecated in iOS 10

Convenience property on UIView for effective layout direction

Class method on UIView for evaluating directionality in your app

watchOS

watchOS

watchOS

Supporting right-to-left languages

watchOS

Supporting right-to-left languages

- Since watchOS 2.1



watchOS

Supporting right-to-left languages

- Since watchOS 2.1
- All WatchKit elements



watchOS

Supporting right-to-left languages

- Since watchOS 2.1
- All WatchKit elements
- API similar to iOS



watchOS

Supporting right-to-left languages

- Since watchOS 2.1
- All WatchKit elements
- API similar to iOS
- Design concepts similar to iOS









watchOS

WatchKit

watchOS

WatchKit

All Interface Objects

watchOS

WatchKit

All Interface Objects

- Direction and alignment flip automatically

watchOS

WatchKit

All Interface Objects

- Direction and alignment flip automatically
 - Horizontal Interface Groups

watchOS

WatchKit

All Interface Objects

- Direction and alignment flip automatically
 - Horizontal Interface Groups
 - Object alignment



watchOS

WatchKit

All Interface Objects

- Direction and alignment flip automatically
 - Horizontal Interface Groups
 - Object alignment



watchOS

WatchKit

All Interface Objects

- Direction and alignment flip automatically
 - Horizontal Interface Groups
 - Object alignment
- WKSemanticContentAttribute



watchOS

WatchKit

All Interface Objects

- Direction and alignment flip automatically
 - Horizontal Interface Groups
 - Object alignment
- WKSemanticContentAttribute
 - Playback, Spatial, ForceLeftToRight, ForceRightToLeft, Unspecified



watchOS

WatchKit

All Interface Objects

- Direction and alignment flip automatically
 - Horizontal Interface Groups
 - Object alignment
- WKSemanticContentAttribute
 - Playback, Spatial, ForceLeftToRight, ForceRightToLeft, Unspecified

```
// Using WKInterfaceSemanticContentAttribute  
playControlsGroup.setSemanticContentAttribute(.playback)
```

Layout Direction in watchOS

```
// Query the directionality for any other UI work
let direction = WKInterfaceDevice.interfaceLayoutDirection(for: .Playback)

if direction == .LeftToRight {
    // ...
} else {
    // ...
}
```

Layout Direction in watchOS

```
// Query the directionality for any other UI work
let direction = WKInterfaceDevice.interfaceLayoutDirection(for: .Playback)

if direction == .LeftToRight {
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} else {
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Layout Direction in watchOS

```
// Query the directionality for any other UI work
let direction = WKInterfaceDevice.interfaceLayoutDirection(for: .Playback)

if direction == .LeftToRight {
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} else {
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```

watchOS

Summary

watchOS

Summary

Same principles as iOS

watchOS

Summary

Same principles as iOS

WatchKit elements adapt out of the box

watchOS

Summary

Same principles as iOS

WatchKit elements adapt out of the box

Adapt any custom elements or artwork

watchOS

Summary

Same principles as iOS

WatchKit elements adapt out of the box

Adapt any custom elements or artwork

Use Semantic Content Attribute to determine layout direction

macOS

System Level Controls

System Level Controls

Menu bar

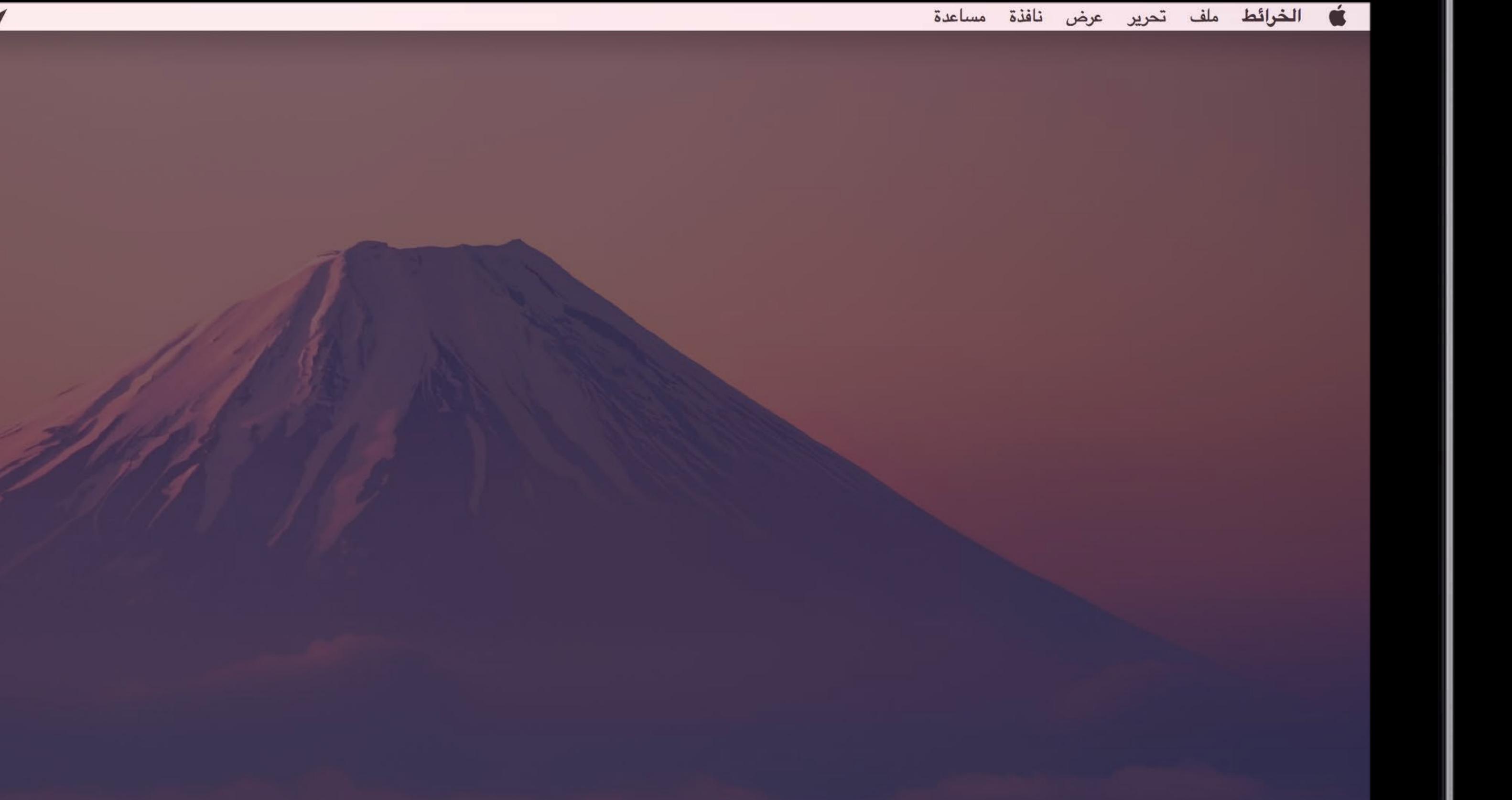


MacBook





الخرائط ملف تحرير عرض نافذة مساعدة



- 1⌘ خريطة
- 2⌘ الترانزيت
- 3⌘ قمر صناعي
- +⌘ تكبير
- ⌘ تصغير
- ↑⌘ انطباق إلى الشمال
- L⌘ انتقال إلى الموقع الحالي

- إظهار التسميات
- إظهار حركة المرور
- R⌘ إظهار الاتجاهات...
- إظهار المقياس
- ◀ التسميات
- ◀ المسافات

◀ الاتجاهات

◀ اتجاهات الترانزيت

- ✓ إظهار شريط الأدوات دائماً
- F⌘^ وضع ملء الشاشة

- تضمن هذه المركبات
- ✓ حافلة
- ✓ سكة حديد خفيفة ومترو
- ✓ قطار سكة حديد لنقل الركاب
- ✓ العبارة

System Level Controls

Windows

تفضيلات النظام

بحث

الإشعارات	Spotlight	الأمن والخصوصية	اللغة والمنطقة	Mission Control	Dock	سطح المكتب وشاشة التوقف	عام
بدء التشغيل قرص	الصوت	الطابعات والمساحات الضوئية	لوحة التعقب	الماوس	لوحة المفاتيح	موفر الطاقة	شاشات العرض
المشاركة	Bluetooth	الشبكة	الملحقات	حسابات الإنترنت	App Store	iCloud	
ملفات التعريف	إمكانية الوصول	Time Machine	التاريخ والوقت	Siri	الإشراف العائلي	المستخدمون والمجموعات	



تفضيلات النظام

بحث

الإشعارات	Spotlight	الأمن والخصوصية	اللغة والمنطقة	Mission Control	Dock	سطح المكتب وشاشة التوقف	عام
قرص بدء التشغيل	الصوت	الطابعات والمساحات الضوئية	لوحة التعقب	الماوس	لوحة المفاتيح	موفر الطاقة	شاشات العرض
المشاركة	Bluetooth	الشبكة	الملحقات	حسابات الإنترنت	App Store	iCloud	
ملفات التعريف	إمكانية الوصول	Time Machine	التاريخ والوقت	Siri	الإشراف العائلي	المستخدمون والمجموعات	



App Level Controls

App Level Controls

NSTableView

App Level Controls

UICollectionView

App Level Controls

UIScrollView

WATCH

Notifications Fitness Health Personalization More to Love [Buy](#)



Individual feedback. Customizable reminders help you reach your daily Stand, Move, and Exercise goals. And Apple Watch uses your success to motivate you to pursue new goals.



Achievements. When you hit milestones or reach your personal best, Apple Watch is there to help you celebrate. For each achievement you'll receive a distinctive badge you can share with friends.



History. Apple Watch shows your weekly Move goal summary. On your iPhone, the Activity app displays past Activity rings, workouts, and achievements. And the Health app stores Activity and Workout data, so you can share it with other apps.

WATCH

Notifications Fitness Health Personalization More to Love Buy



Individual feedback. Customizable reminders help you reach your daily Stand, Move, and Exercise goals. And Apple Watch uses your success to motivate you to pursue new goals.



Achievements. When you hit milestones or reach your personal best, Apple Watch is there to help you celebrate. For each achievement you'll receive a distinctive badge you can share with friends.



History. Apple Watch shows your weekly Move goal summary. On your iPhone, the Activity app displays past Activity rings, workouts, and achievements. And the Health app stores Activity and Workout data, so you can share it with other apps.

dir=LTR ←





التاريخ. تقدم لك Apple Watch ملخصاً أسبوعياً عما حققتَه من أهداف الحركة Move. يعرض app النشاط على iPhone حلقات النشاط والتمارين الرياضية والإنجازات السابقة، ويحفظ app صحتي معلومات نشاطك وتمارينك لتشاركها مع apps أخرى.



الإنجازات. تساعدك Apple Watch على الاحتفال عندما تصل إلى أهداف معينة أو تحقق أفضل نتائجك، فهي تقدم لك شارة مميزة لكل إنجاز يمكنك مشاركتها مع أصدقائك.



الملاحظات الفردية. تساعدك منبهات التدريب القابلة للتخصيص على تحقيق أهدافك في الوقوف Stand والحركة Move والتمرين Exercise كل يوم، وتستغل Apple Watch نجاحاتك لتشجيعك على بلوغ أهداف جديدة.



التاريخ. تقدم لك Apple Watch ملخصاً أسبوعياً عما حققته من أهداف الحركة Move. يعرض app النشاط على iPhone حلقات النشاط والتمارين الرياضية والإنجازات السابقة، ويحفظ app صحي معلومات نشاطك وتمارينك لتشاركها مع apps أخرى.



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→ dir=RTL

API

macOS

WebKit

NEW

macOS

WebKit

NEW

```
// Default: WKUserInterfaceDirectionPolicyContent  
var userInterfaceDirectionPolicy: WKUserInterfaceDirectionPolicy
```

enum

- content
- system

macOS

AppKit

macOS

AppKit

All controls flip automatically

macOS

AppKit

All controls flip automatically

- Use StackView and GridView when you can

macOS

AppKit

All controls flip automatically

- Use StackView and GridView when you can
- Use Auto Layout

macOS

AppKit

All controls flip automatically

- Use StackView and GridView when you can
- Use Auto Layout

What's New in Auto Layout

Presidio

Friday 3:00PM

Mysteries of Auto Layout

WWDC 2015

macOS

AppKit

All controls flip automatically

- Use StackView and GridView when you can
- Use Auto Layout

Direction and alignment flip automatically for nibs, xibs and storyboards in Base localization

What's New in Auto Layout

Presidio

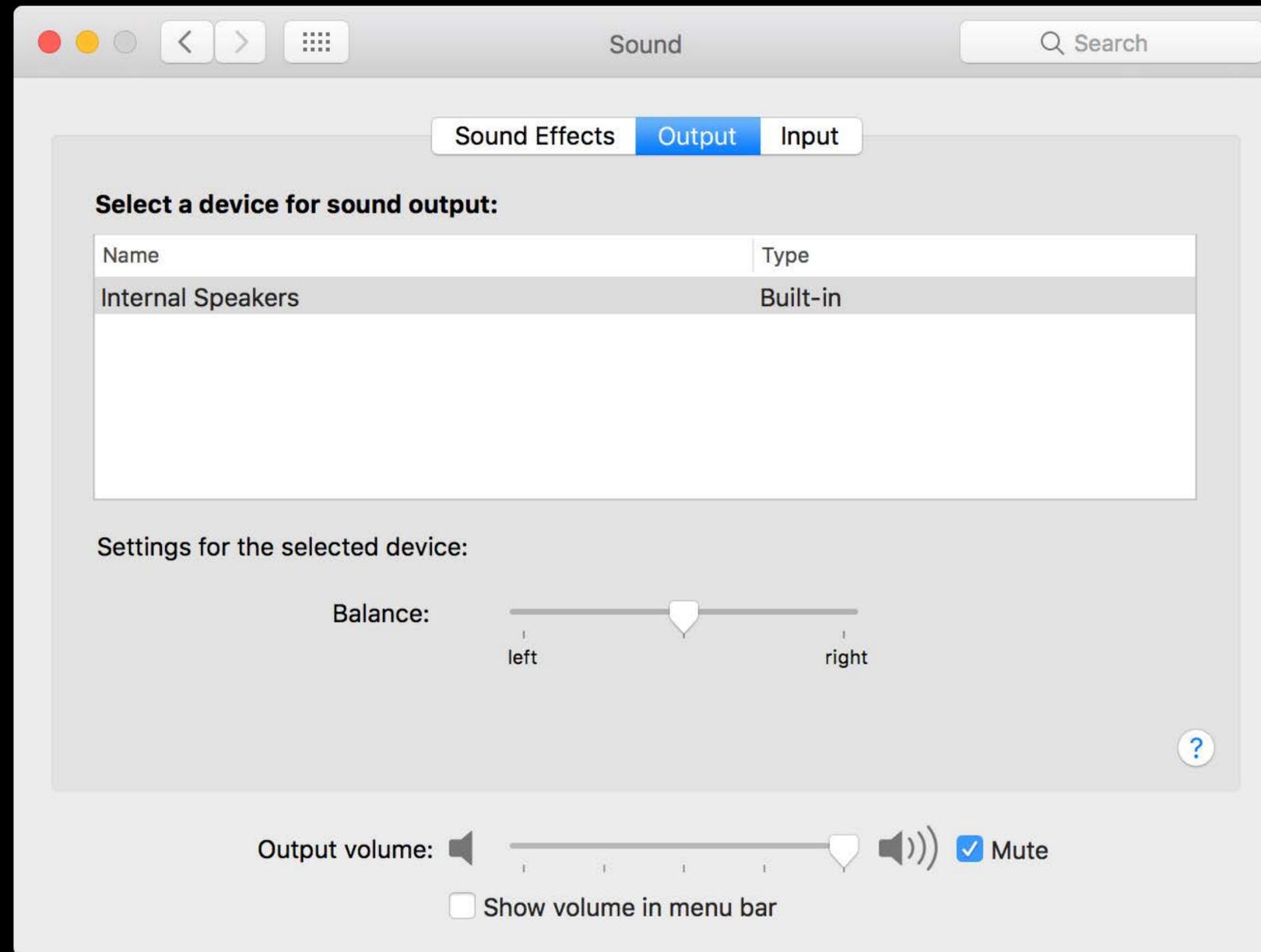
Friday 3:00PM

Mysteries of Auto Layout

WWDC 2015

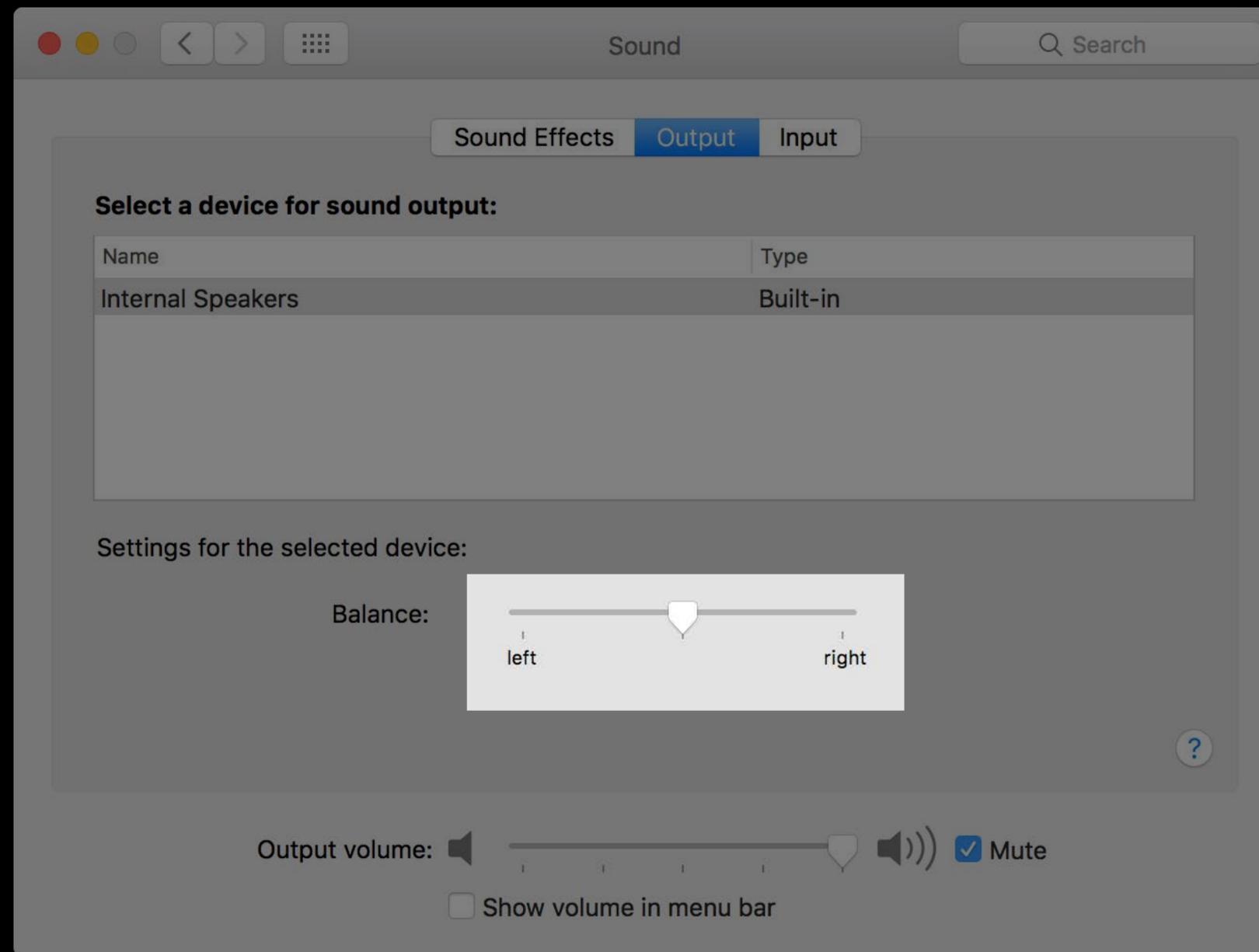
macOS

NSView layout direction



macOS

NSView layout direction



macOS

NSView

macOS

NSView

Get and set the user interface layout direction of a view

macOS

NSView

Get and set the user interface layout direction of a view

The default value is set to `NSApp.userInterfaceLayoutDirection`

macOS

NSView

Get and set the user interface layout direction of a view

The default value is set to `NSApp.userInterfaceLayoutDirection`

```
// Get and set the user interface layout direction  
public var userInterfaceLayoutDirection: NSUserInterfaceLayoutDirection
```

macOS

NSImageRep

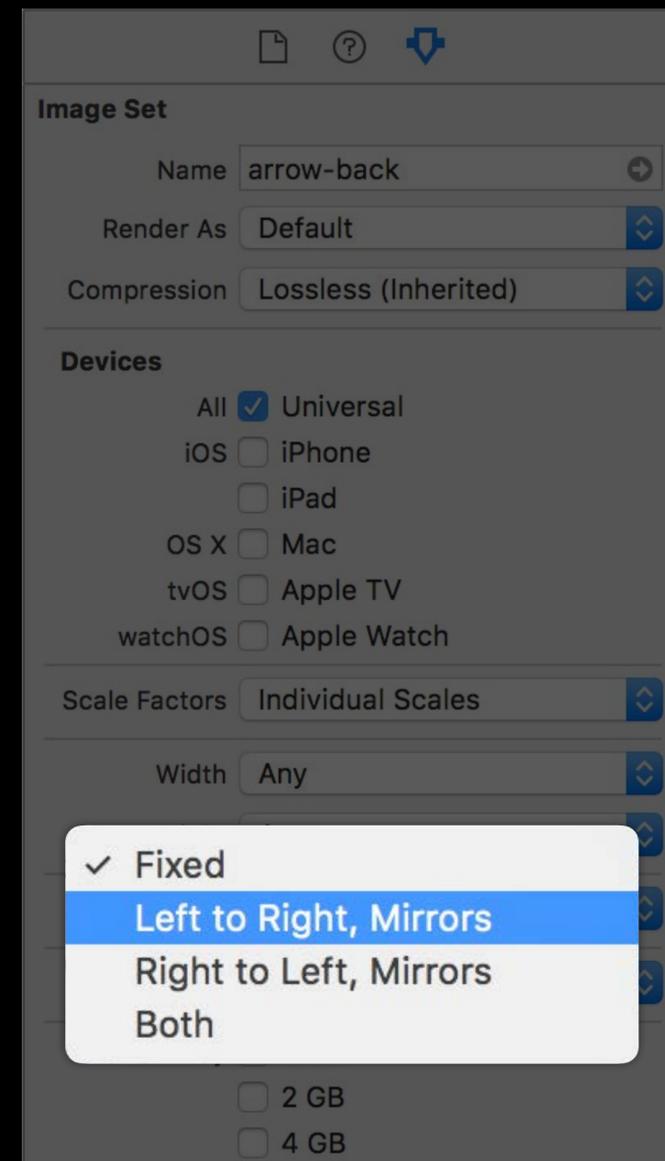
NEW

macOS

UIImageRep

Use Asset Catalogs

NEW



macOS

NSImageRep

NEW

Use Asset Catalogs

If assets are obtained externally (server, etc.)

```
// Default: NSImageLayoutDirectionUnspecified  
public var layoutDirection: NSImageLayoutDirection
```

enum

- leftToRight
- rightToLeft

macOS

Creating images

macOS

Creating images

Register left-to-right and right-to-left counterparts

```
let image = UIImage(data: LTRData)
image.representations.first.layoutDirection = .leftToRight
let rtlImage = UIImageRep(data: RTLData)
rtlImage.layoutDirection = .rightToLeft

// Adds the specific image representation to the receiver
image.addRepresentation(rtlImage)
```

macOS

Creating images

Register left-to-right and right-to-left counterparts

```
let image = UIImage(data: LTRData)
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let rtlImage = UIImageRep(data: RTLData)
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image.addRepresentation(rtlImage)
```

macOS

NSTextField and text alignment

NEW

macOS

NSTextField and text alignment

New convenience initializers

A teal rounded square badge with the word "NEW" in white capital letters.

NEW

macOS

NEW

NSTextField and text alignment

New convenience initializers

Default alignment is Natural

```
// Creates a non-wrapping, non editable, non selectable text field.
```

```
public convenience init(labelWithString stringValue: String)
```

```
// Creates a wrapping, non editable, selectable text field.
```

```
public convenience init(wrappingLabelWithString stringValue: String)
```

macOS
NSButton

NEW

macOS

NSButton

NEW

Button with an image will flip position automatically

Checkbox position will flip position automatically

Radio button position will flip position automatically

```
public convenience init(title: String, image: NSImage, target: AnyObject?, action: Selector?)
```

```
public convenience init(checkboxWithTitle title: String, target: AnyObject?, action: Selector?)
```

```
public convenience init(radioButtonWithTitle title: String, target: AnyObject?, action: Selector?)
```

Demo

macOS

Displaying Bidi Text



9:41 AM



< Sent



Adil El Dafashy

To: Laila El Dafashy

Details



العشاء

Today at 12:05 PM

ليلي،

أود أن أصحبك اليوم للعشاء. فهل وقتك يسمح بذلك؟

كنت أفكر في المطعم الإيطالي في Santana Row، ثم نذهب لنسمع بنتي تعزف الجيتار في الساحة المقلبة.

سوف أمر عليك في الوقت الذي تحدديته.

منتظر الرد وأراك على خير،

عادل



English UI



English UI



Mixed
Content

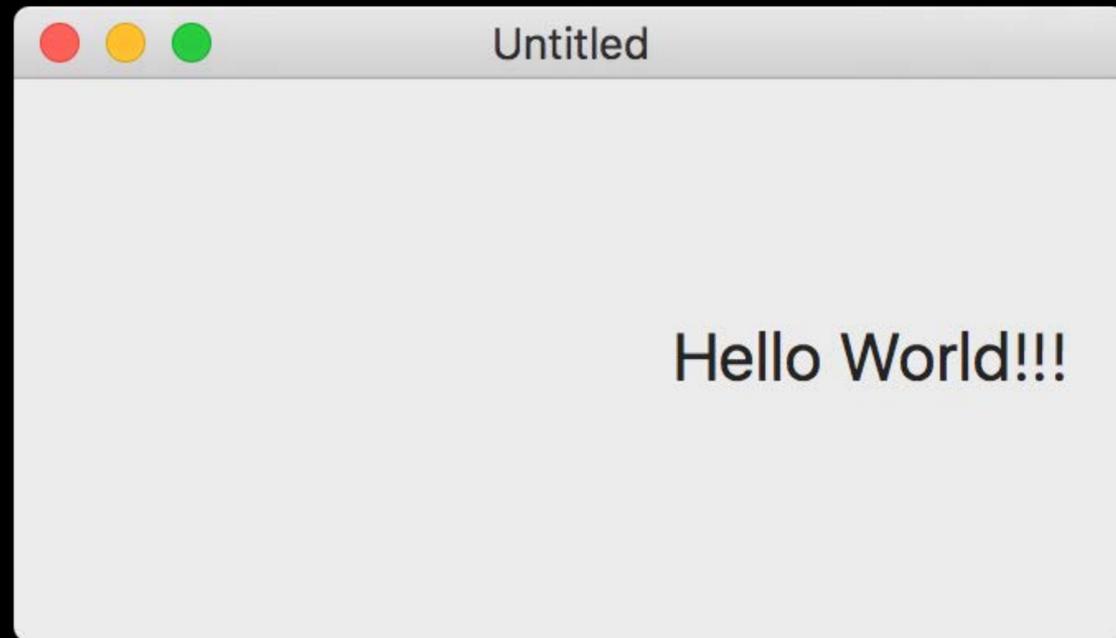
Things to Remember...

Things to Remember...

Alignment and directionality are different

Things to Remember...

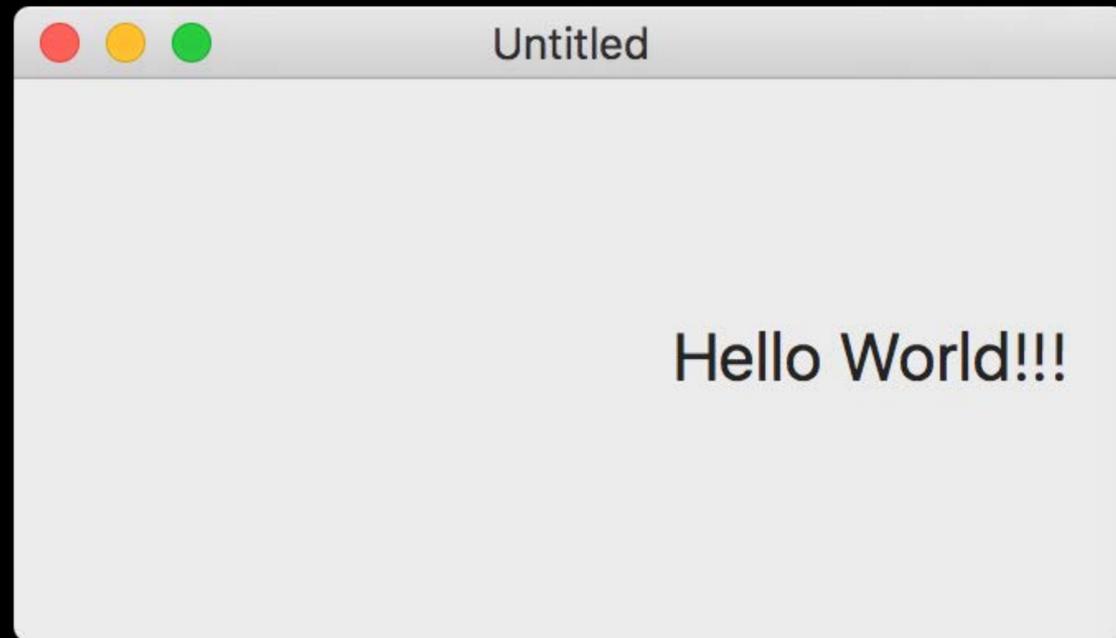
Alignment and directionality are different



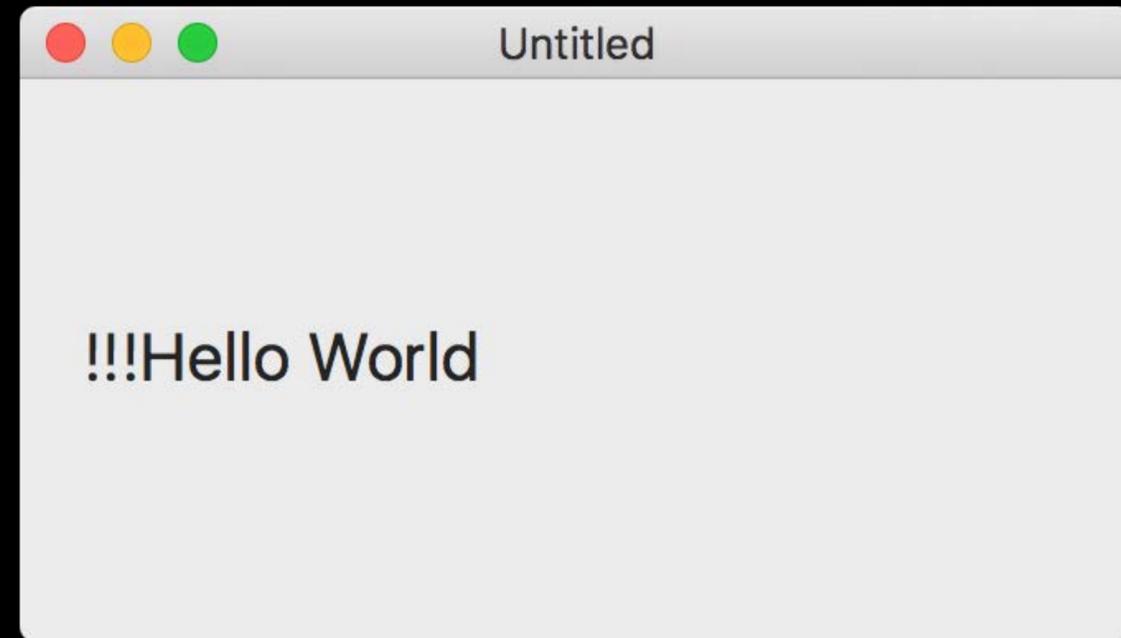
Right aligned text

Things to Remember...

Alignment and directionality are different



Right aligned text

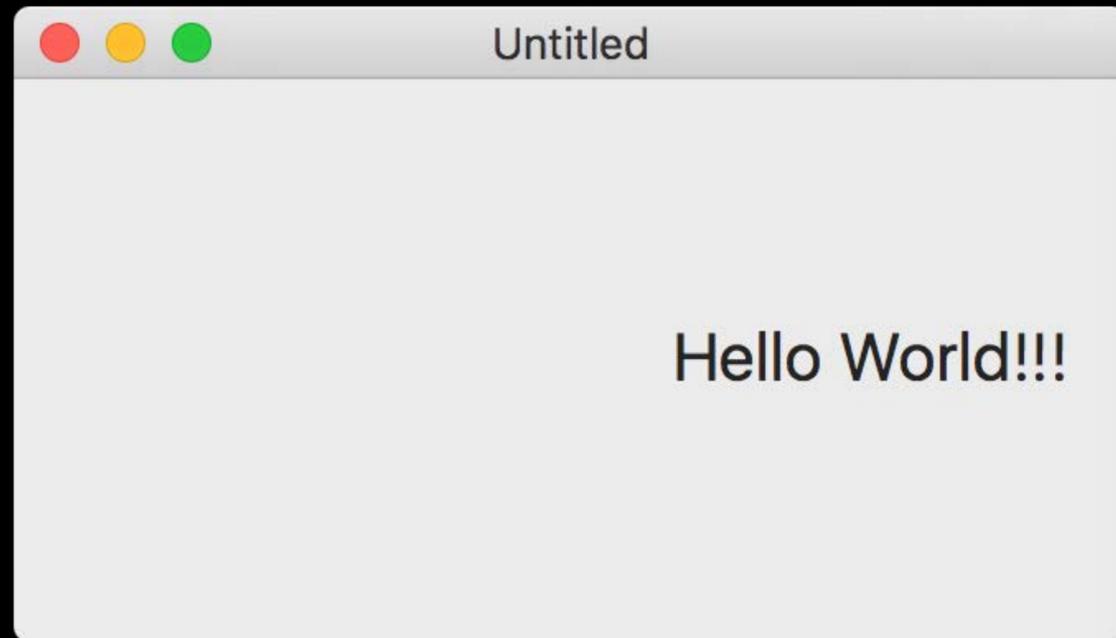


RTL writing direction

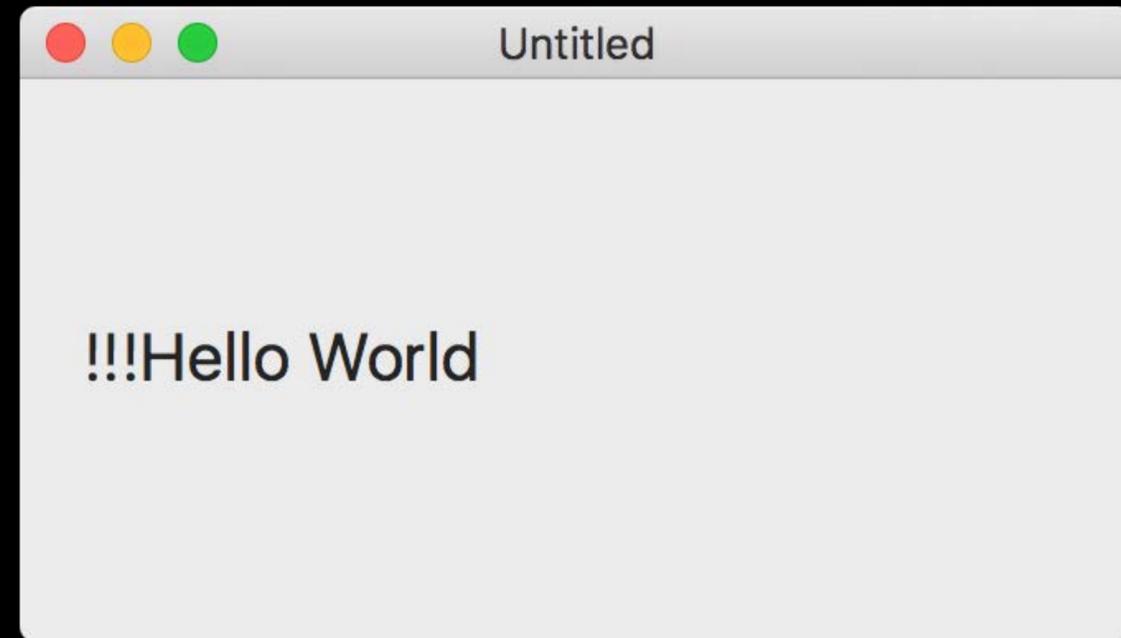
Things to Remember...

Alignment and directionality are different

Alignment and base writing direction are natural by default



Right aligned text



RTL writing direction

Text Directionality

Text Directionality

<http://unicode.org/reports/tr9/>

Text Directionality

All unicode characters are either

<http://unicode.org/reports/tr9/>

Text Directionality

All unicode characters are either

Strong LTR (L)

Latin, 中文

<http://unicode.org/reports/tr9/>

Text Directionality

All unicode characters are either

Strong LTR (L)

Latin, 中文

Strong RTL (R)

العربية, עברית

<http://unicode.org/reports/tr9/>

Text Directionality

All unicode characters are either

Strong LTR (L)

Latin, 中文

Strong RTL (R)

العربية, עברית

Neutral/Weak (N)

spaces, punctuation...

<http://unicode.org/reports/tr9/>

Text Directionality

All unicode characters are either

Strong LTR (L)

Latin, 中文

Strong RTL (R)

العربية, עברית

Neutral/Weak (N)

spaces, punctuation...

Base writing direction is determined by the first strong character

<http://unicode.org/reports/tr9/>

Text Directionality

Text Directionality

%@ has the highest score!

Text Directionality

Aya has the highest score! 

Text Directionality

has the highest score!

Text Directionality

!has the highest score اية

Text Directionality

!has the highest score اية 

Text Directionality

اية has the highest score!

Text Directionality

اية has the highest score! 

Isolates Support

NEW

Isolates Support

NEW

Unicode introduced Isolates support

Isolates Support

NEW

Unicode introduced Isolates support

Allows some text to be isolated and have the directionality of its first strong character

Isolates Support

NEW

Unicode introduced Isolates support

Allows some text to be isolated and have the directionality of its first strong character

Doesn't affect surrounding text

Isolates Support

NEW

Unicode introduced Isolates support

Allows some text to be isolated and have the directionality of its first strong character

Doesn't affect surrounding text

Using `localizedStringWithFormat:` will isolate %@ automatically

```
public class func localizedStringWithFormat (_ format: NSString, _ args: CVarArg...)
    format -> Self
```

Demo

Bidi Text

Summary

Summary

Directional Image Assets

Summary

Directional Image Assets

New API on iOS, watchOS, and macOS

Summary

Directional Image Assets

New API on iOS, watchOS, and macOS

Auto Layout

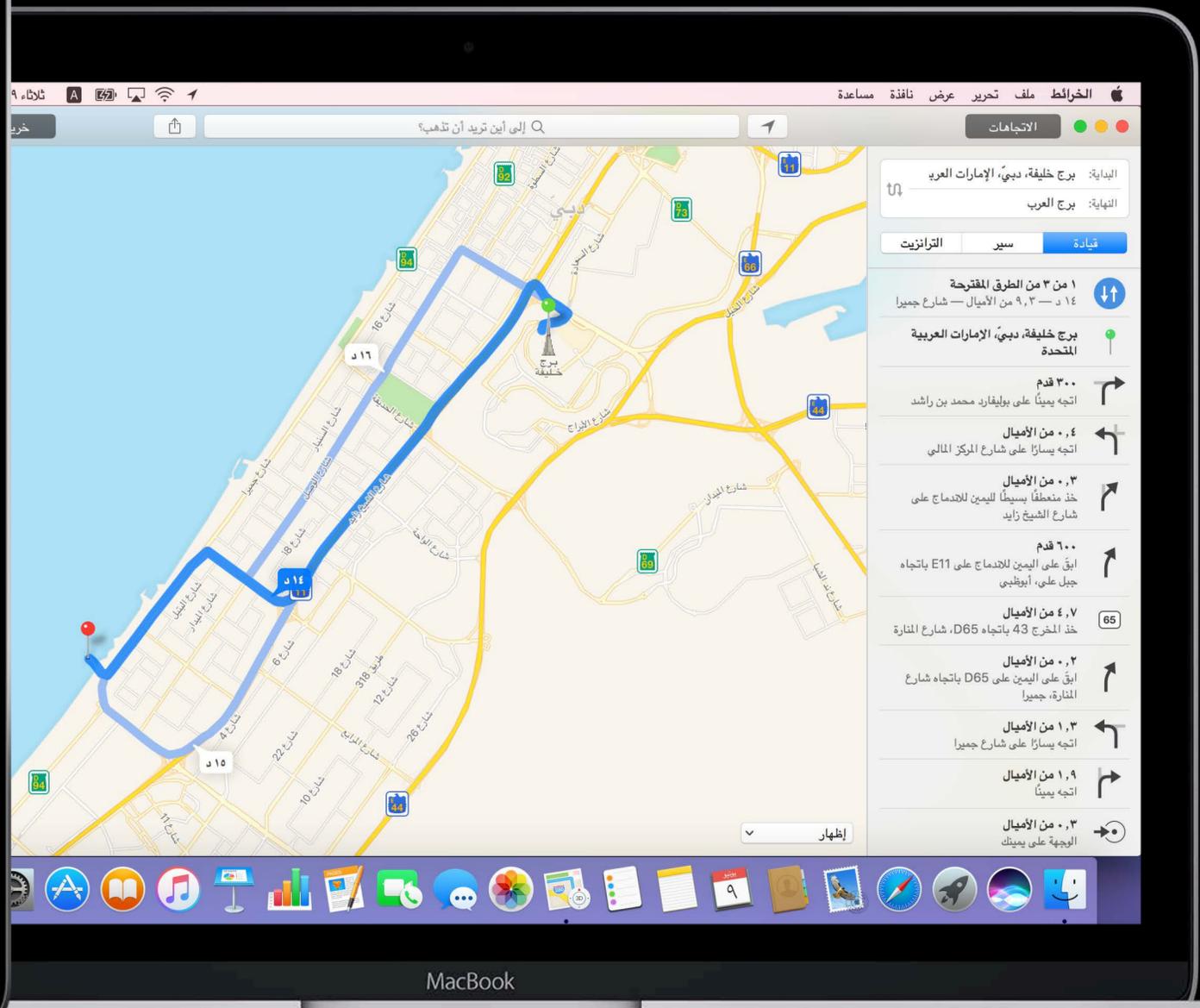
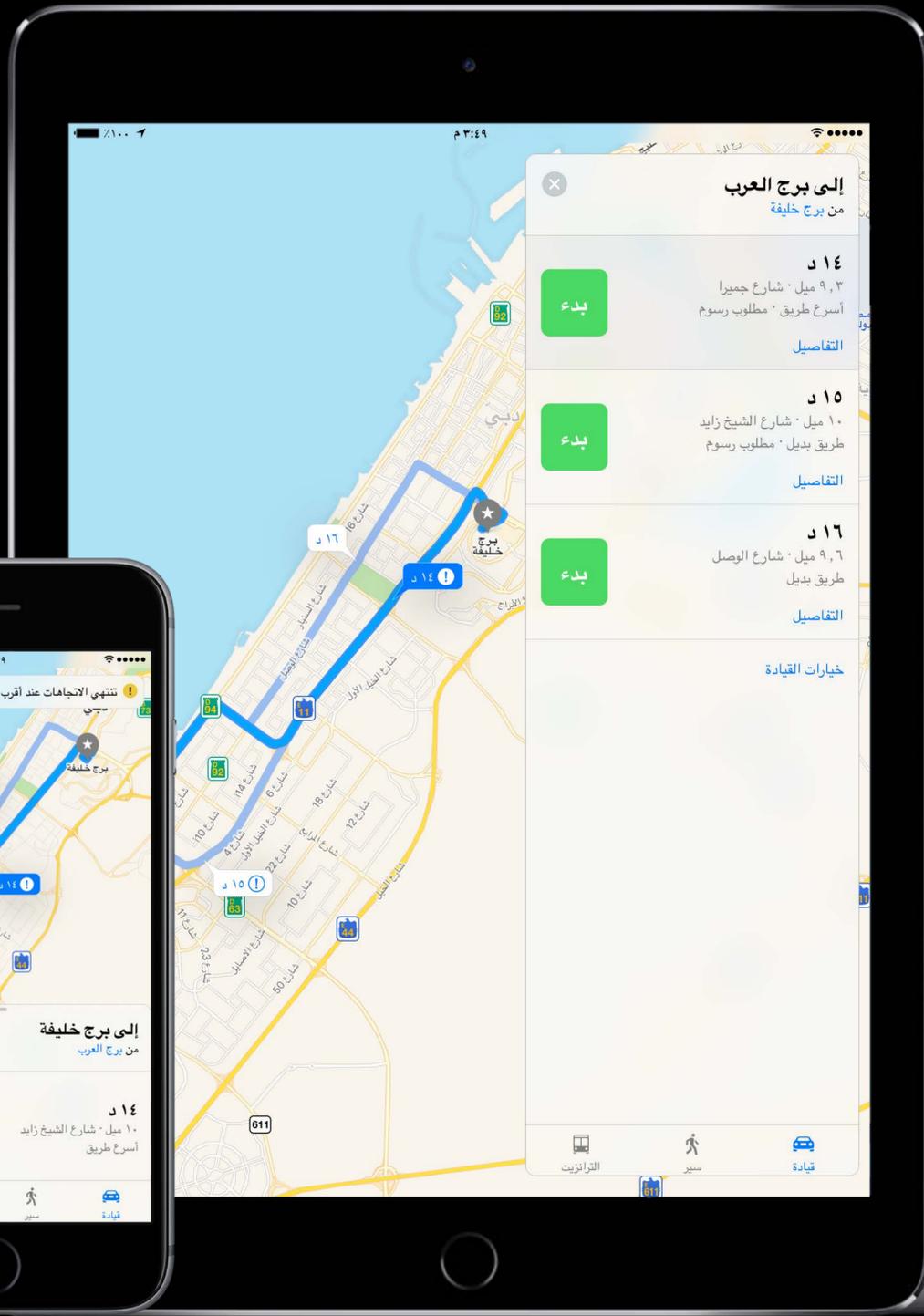
Summary

Directional Image Assets

New API on iOS, watchOS, and macOS

Auto Layout

Improved text support with Isolates



إلى برج العرب

من برج خليفة

١٤ د

٩,٣ ميل · شارع جميرا
أسرع طريق · مطلوب رسوم

التفاصيل



١٥ د

١٠ ميل · شارع الشيخ زايد
طريق بديل · مطلوب رسوم

التفاصيل



١٦ د

٩,٦ ميل · شارع الوصل
طريق بديل

التفاصيل



خيارات القيادة



البداية: برج خليفة، دبي، الإمارات العربية
النهاية: برج العرب

قيادة سيرا الترانزيت

١ من ٣ من الطرق المقترحة
١٤ د - ٩,٣ ميل من الأميال - شارع جميرا

برج خليفة، دبي، الإمارات العربية المتحدة

٣٠٠ قدم
اتجه يمينا على بوليفارد محمد بن راشد

٠,٤ من الأميال
اتجه يسارا على شارع المركز المالي

٠,٣ من الأميال
خذ منعطفًا بسيطًا لليمين للاندماج على شارع الشيخ زايد

٦٠٠ قدم
ابق على اليمين للاندماج على E11 باتجاه جبل علي، أيوظي

٤,٧ من الأميال
خذ المخرج 43 باتجاه D65، شارع المنارة

٠,٢ من الأميال
ابق على اليمين على D65 باتجاه شارع المنارة، جميرا

١,٣ من الأميال
اتجه يسارا على شارع جميرا

١,٩ من الأميال
اتجه يمينا

٠,٣ من الأميال
الوجهة على يمينك

إظهار



More Information

<https://developer.apple.com/wwdc16/232>

Related Sessions

Inclusive App Design	Pacific Heights	Tuesday 10:00AM
What's New in Cocoa	Nob Hill	Tuesday 11:00AM
Typography and Fonts	Presidio	Wednesday 9:00AM
What's New in International User Interfaces	Nob Hill	Friday 9:00AM
What's New in Auto Layout	Presidio	Friday 3:00PM
Measurements and Units	Nob Hill	Friday 4:00PM
Localizing with Xcode 6		WWDC 2014

Labs

Interface Builder and Auto Layout Lab

Developer Tools
Lab C

Friday 9:00AM

Internationalization Lab

Frameworks
Lab C

Friday 2:00PM



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