Tools

#WWDC14

What's New in Interface Builder

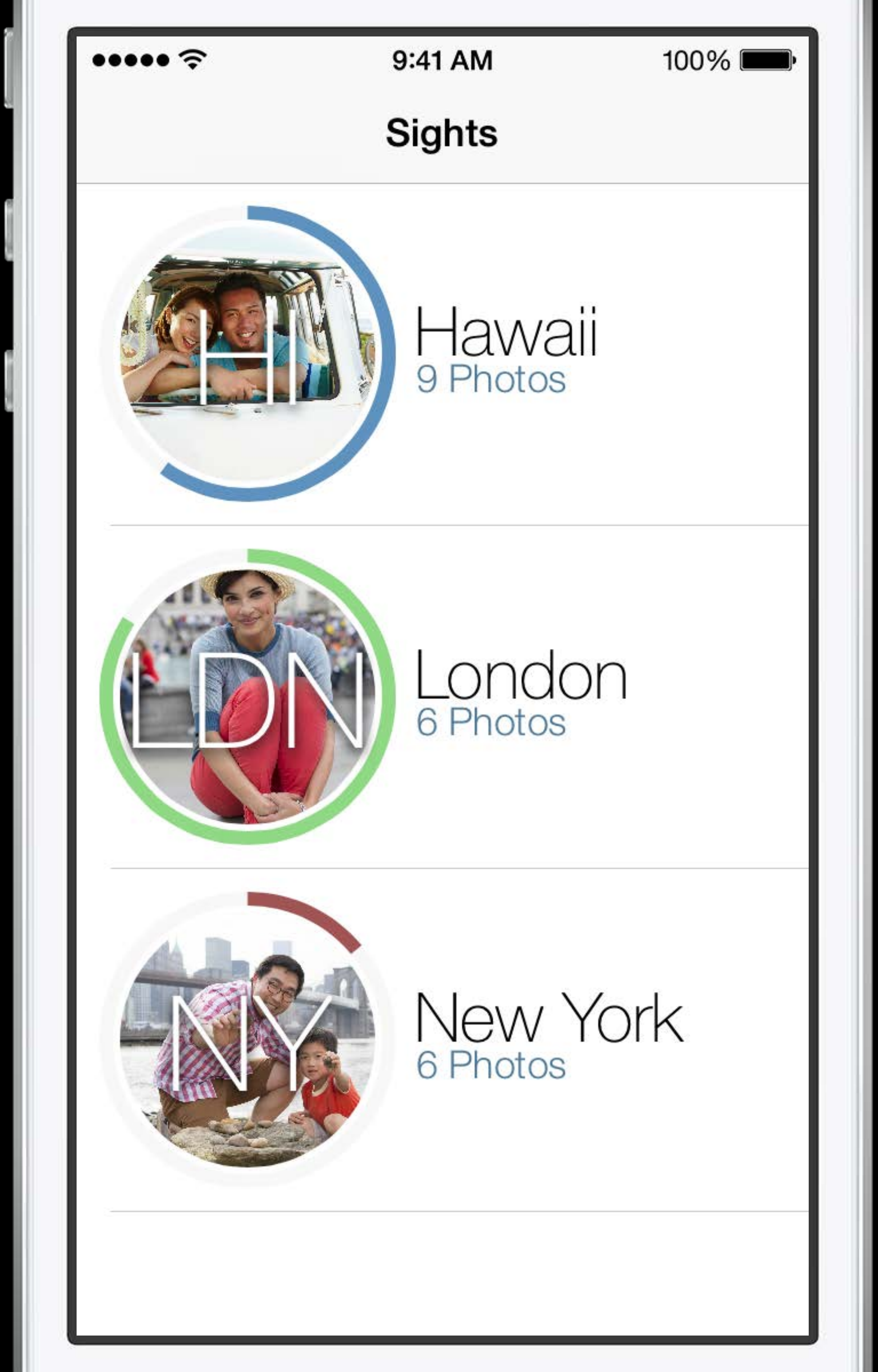
Bringing your app to the canvas

Session 411
Kevin Cathey
Interface Builder Engineer

Liveness

Adaptability

Power & Parity

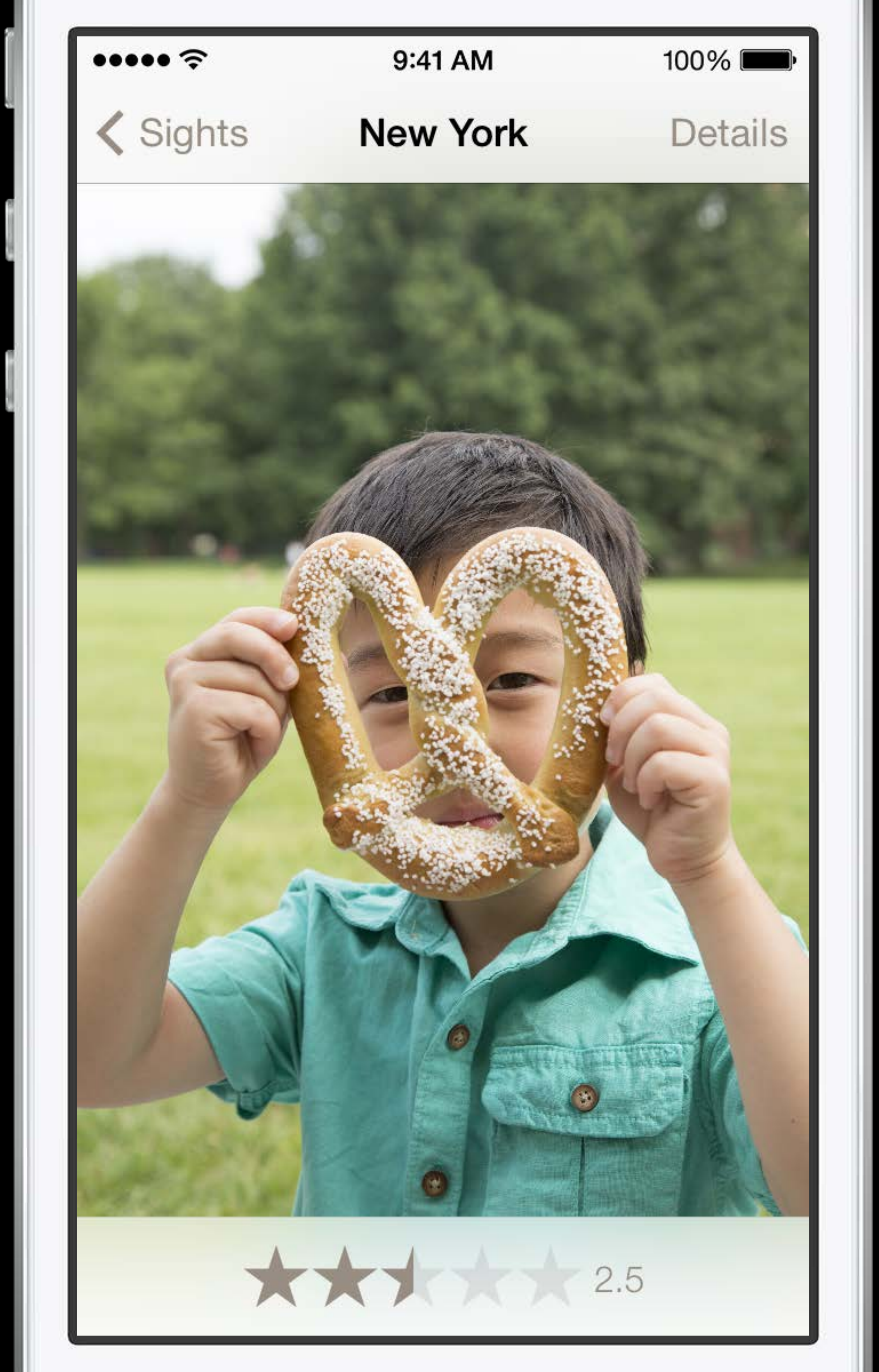


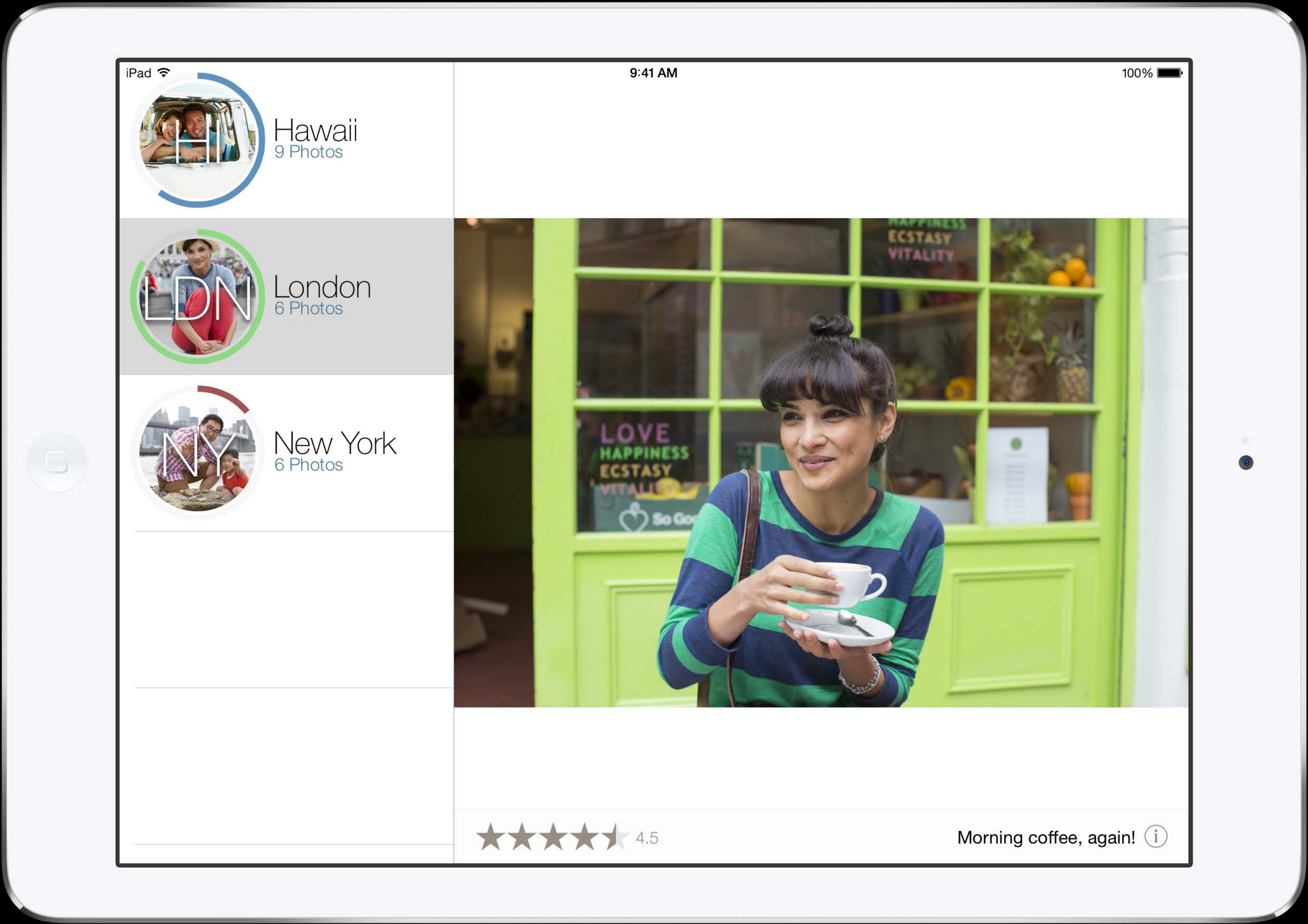
Sights

Hawaii
9 Photos

London
6 Photos

New York
6 Photos


9:41 AM
100%
Sights
New York
Details
★★⯪☆☆ 2.5



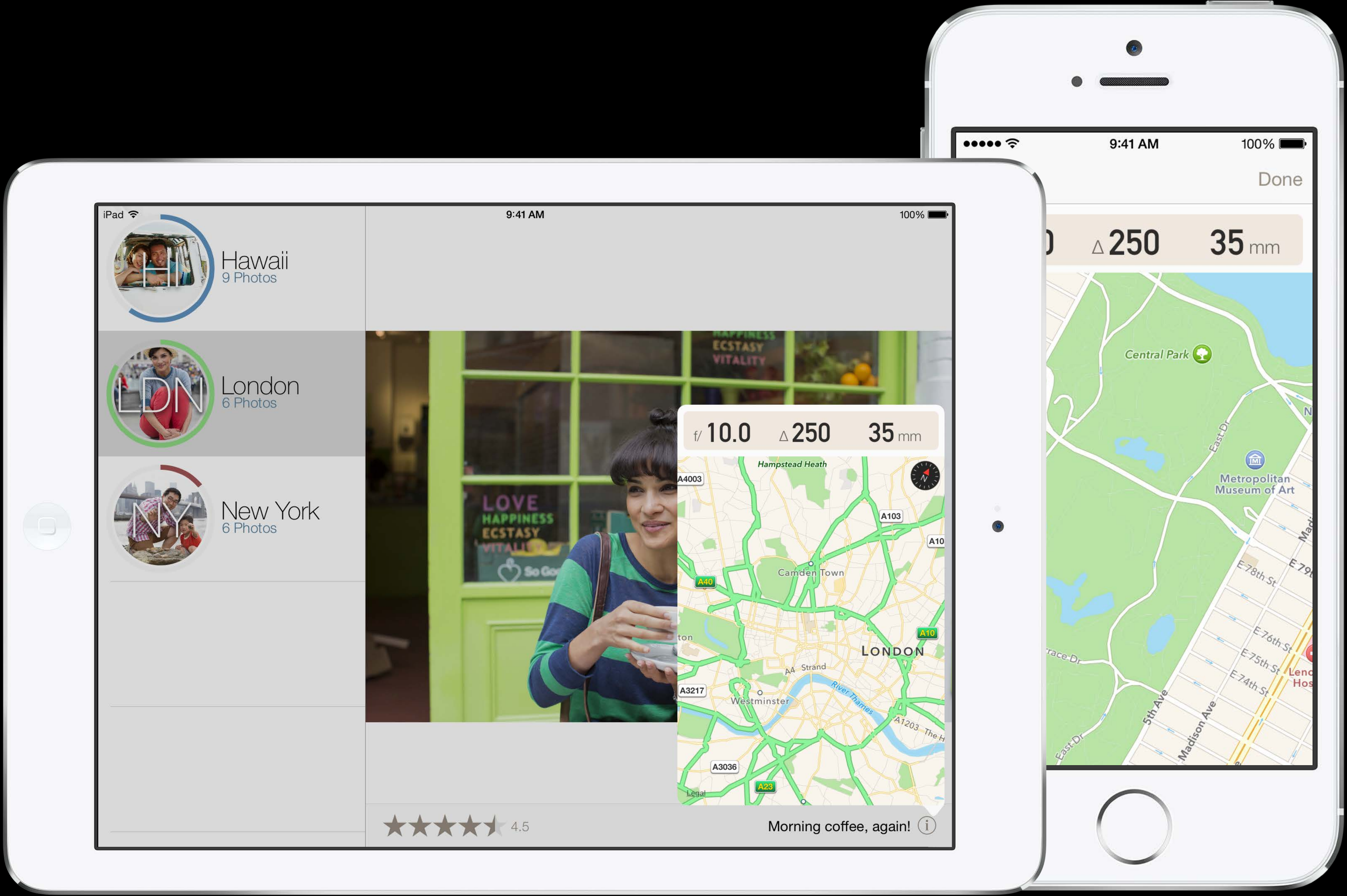
Hawaii
9 Photos

London
6 Photos

New York
6 Photos

★★★★½ 4.5

Morning coffee, again! ⓘ


iPad
9:41 AM
100%
Hawaii
9 Photos
London
6 Photos
New York
6 Photos
f/ 10.0
△250
35 mm
Hampstead Heath
Camden Town
LONDON
Westminster
River Thames
A4 Strand
Legal
★★★★☆ 4.5
Morning coffee, again!
9:41 AM
100%
Done
△250
35 mm
Central Park
Metropolitan Museum of Art
5th Ave
Madison Ave
E 78th St
E 76th St
E 75th St
E 74th St

Demo

Live Views

Getting your custom content drawing in IB

Live Views

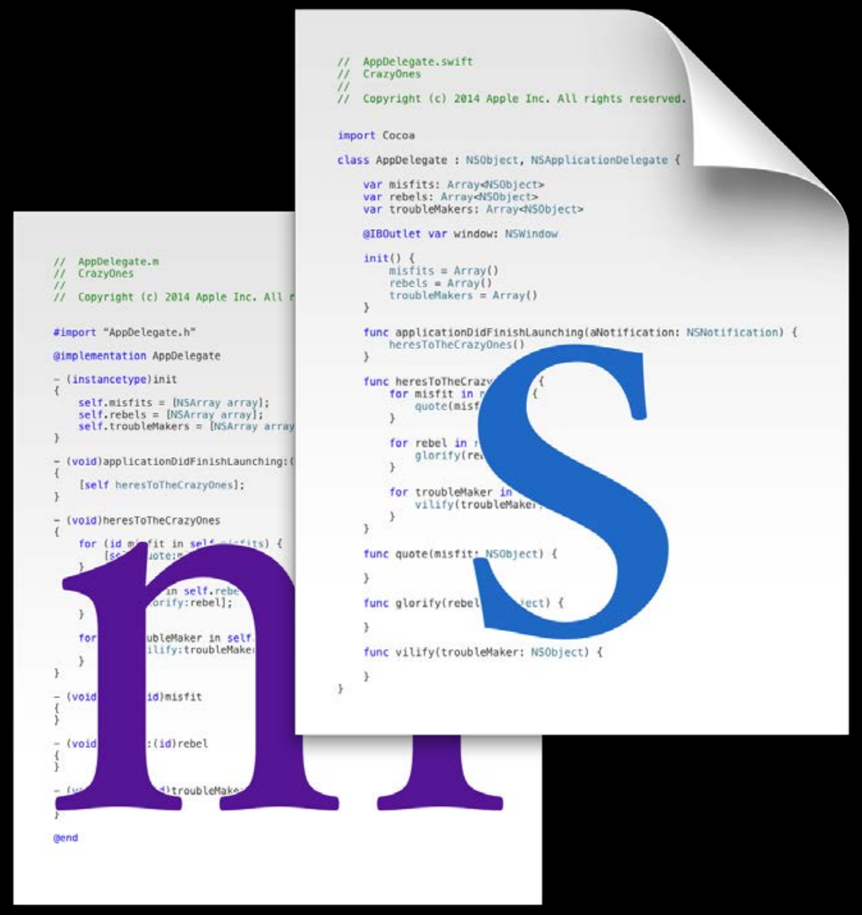
Getting your custom content drawing in IB

[1]

Create framework

Live Views

Getting your custom content drawing in IB



[1]

Create framework

[2]

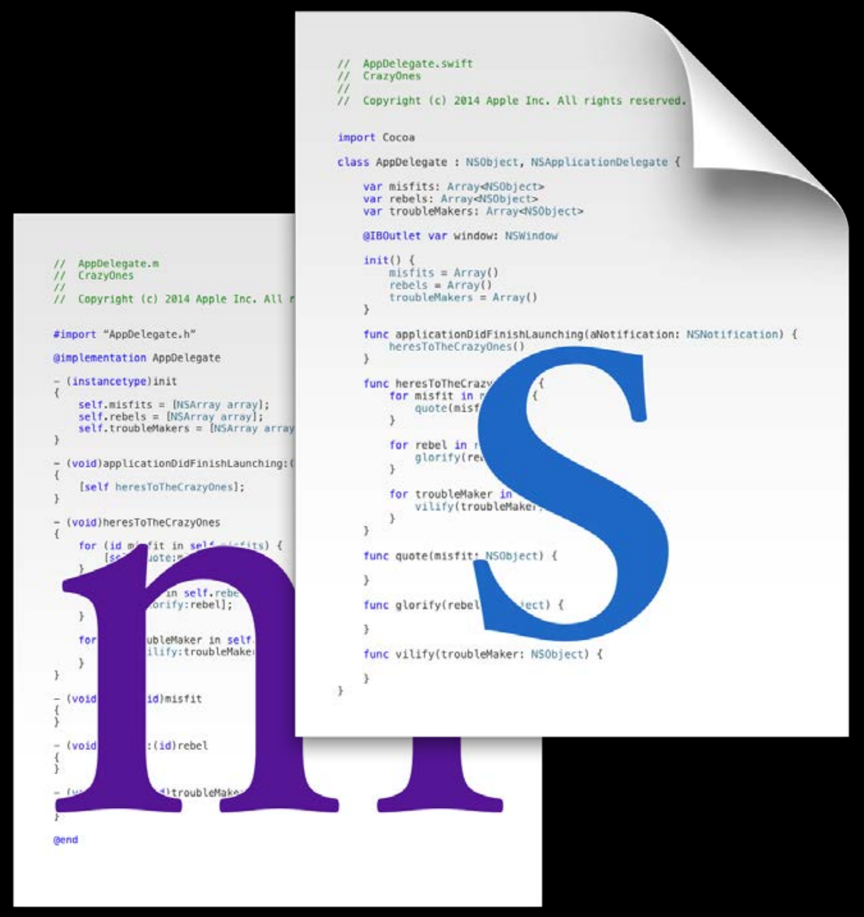
Create class

Live Views

Getting your custom content drawing in IB

[1]

Create framework



[2]

Create class

```
IB_DESIGNABLE
```

(Objective-C)

```
@IBDesignable
```

(Swift)

[3]

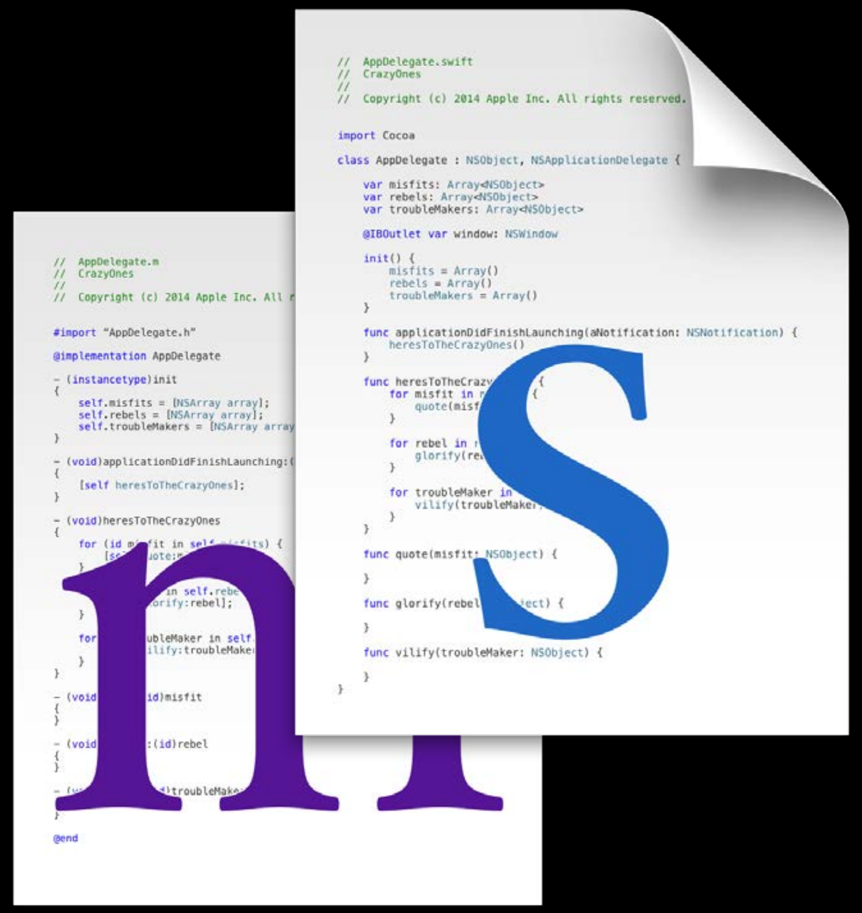
Mark as designable

Live Views

Getting your custom content drawing in IB

[1]

Create framework



[2]

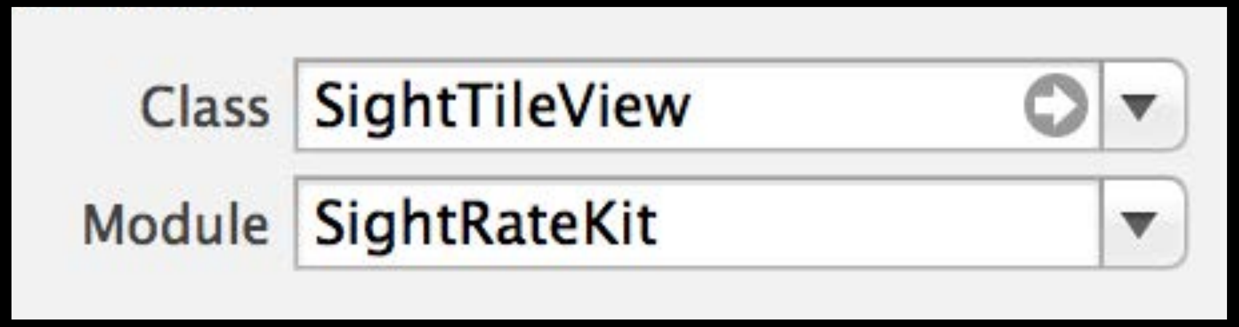
Create class

IB_DESIGNABLE
(Objective-C)

@IBDesignable
(Swift)

[3]

Mark as designable



Class: SightTileView

Module: SightRateKit

[4]

Set custom class on view in IB

Live Views

Capabilities

See custom drawing

Specify custom geometry (e.g. alignment rect insets, intrinsic content size, baseline)

Debug live view instances

Specify design time only code

- Override `prepareForInterfaceBuilder()` for design time initialization
- Use `#if TARGET_INTERFACE_BUILDER` to opt code in or out

Auto Layout

Aspect ratio and proportional size constraints

Cross-attribute constraints (`view1.centerY = view2.baseline`)

Reverse items

Filter constraints inspector

Adding iPhone Support

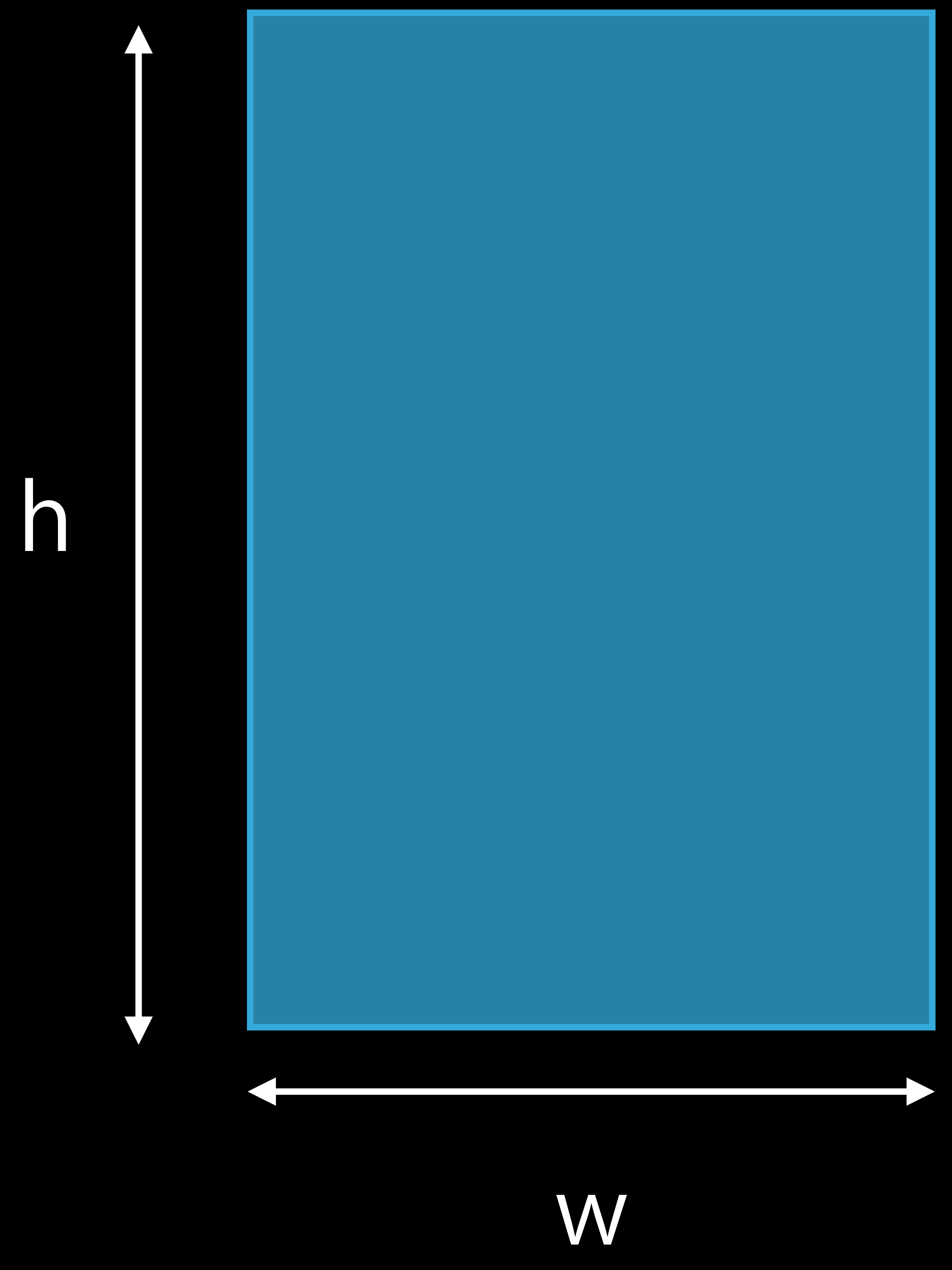
Adding iPhone Support
…in the Same Storyboard

Adding iPhone Support …in the Same Storyboard …Using Size Classes

Allows you to specify how your UI changes when the available size of your view controller changes

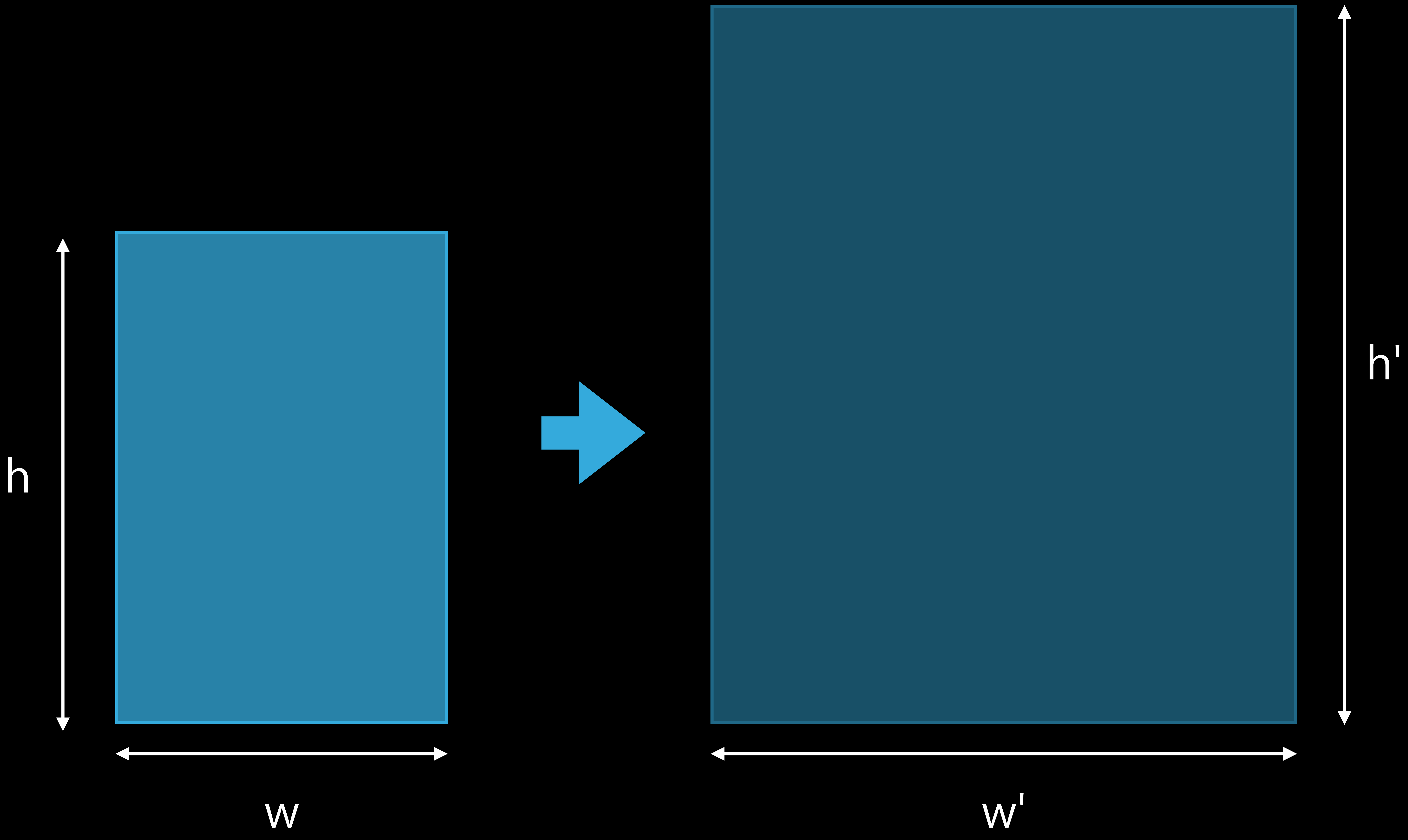
Size Classes

Thinking in terms of magnitude



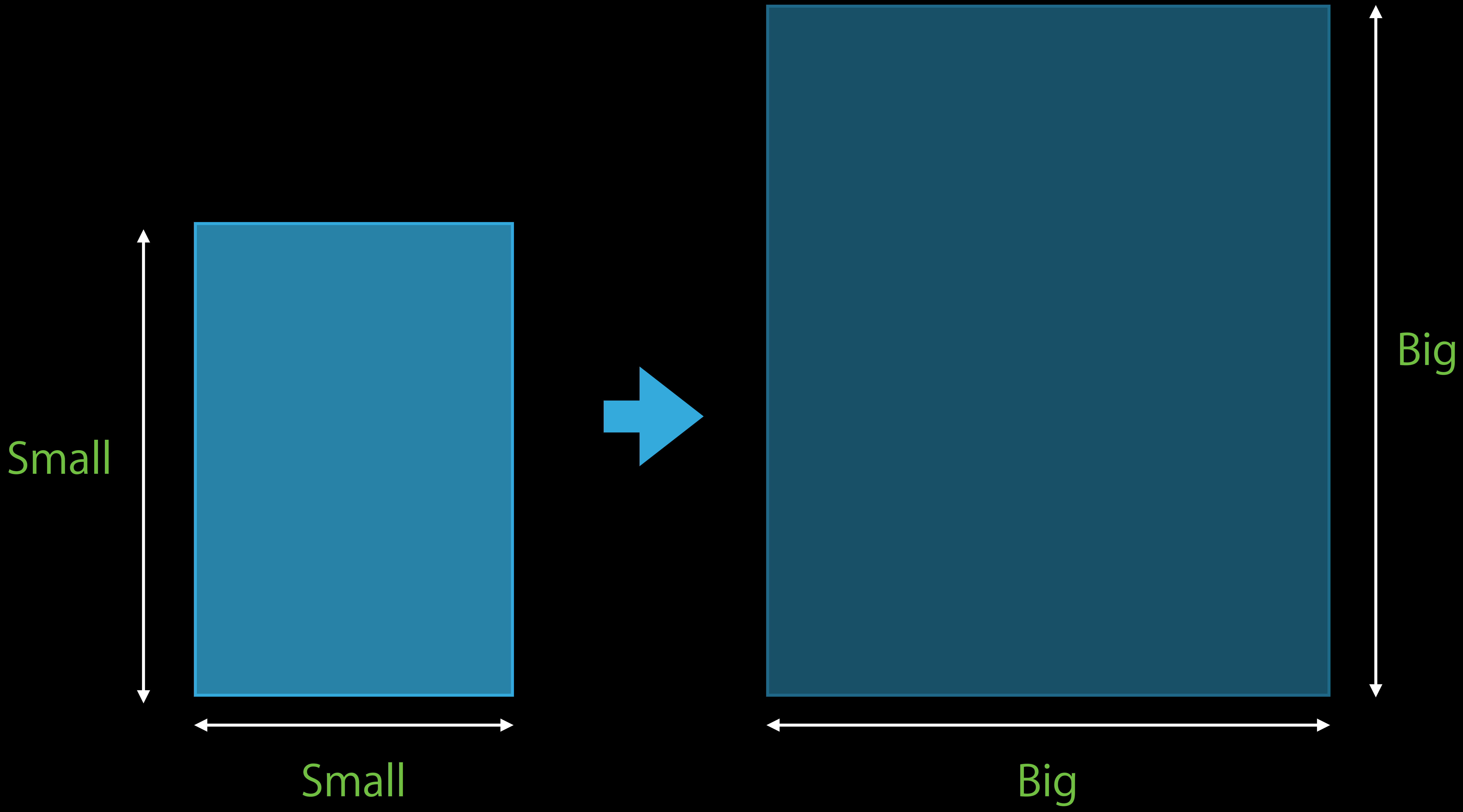
Size Classes

Thinking in terms of magnitude



Size Classes

Thinking in terms of magnitude



Size Classes

Values

Compact

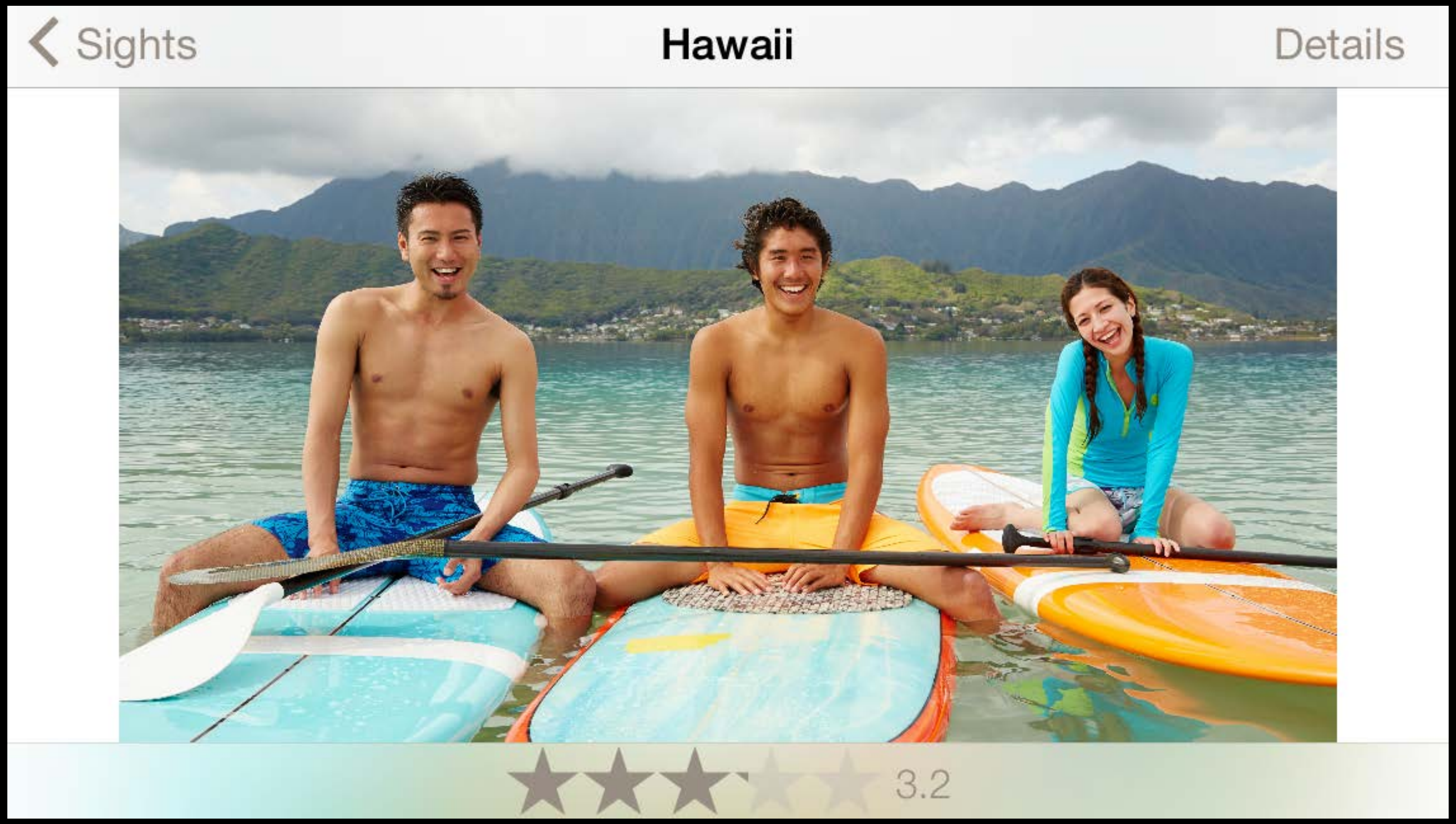
Regular

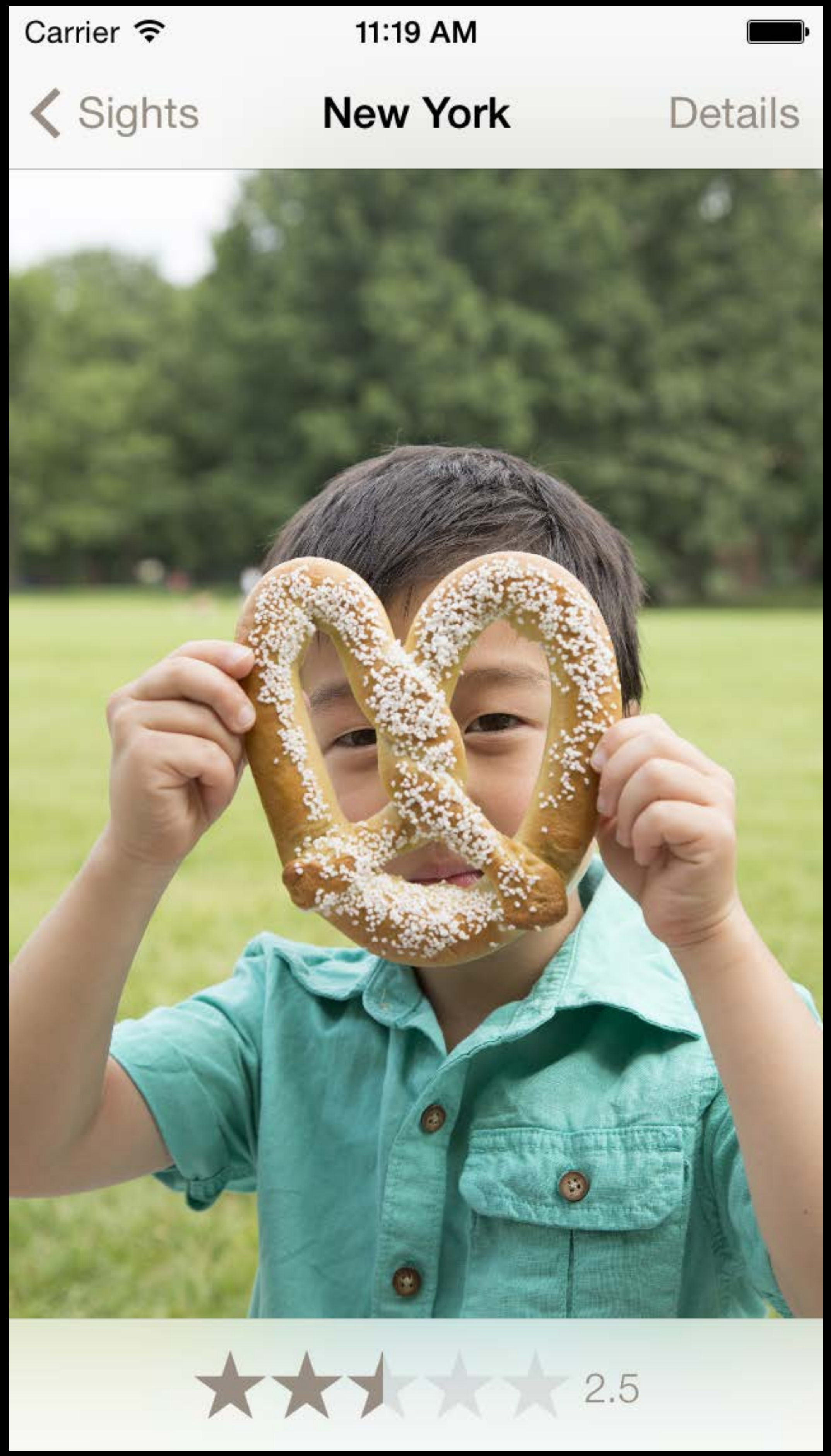
Size Classes

Values	Compact	Regular
Orientation	Horizontal	Vertical

Size Classes

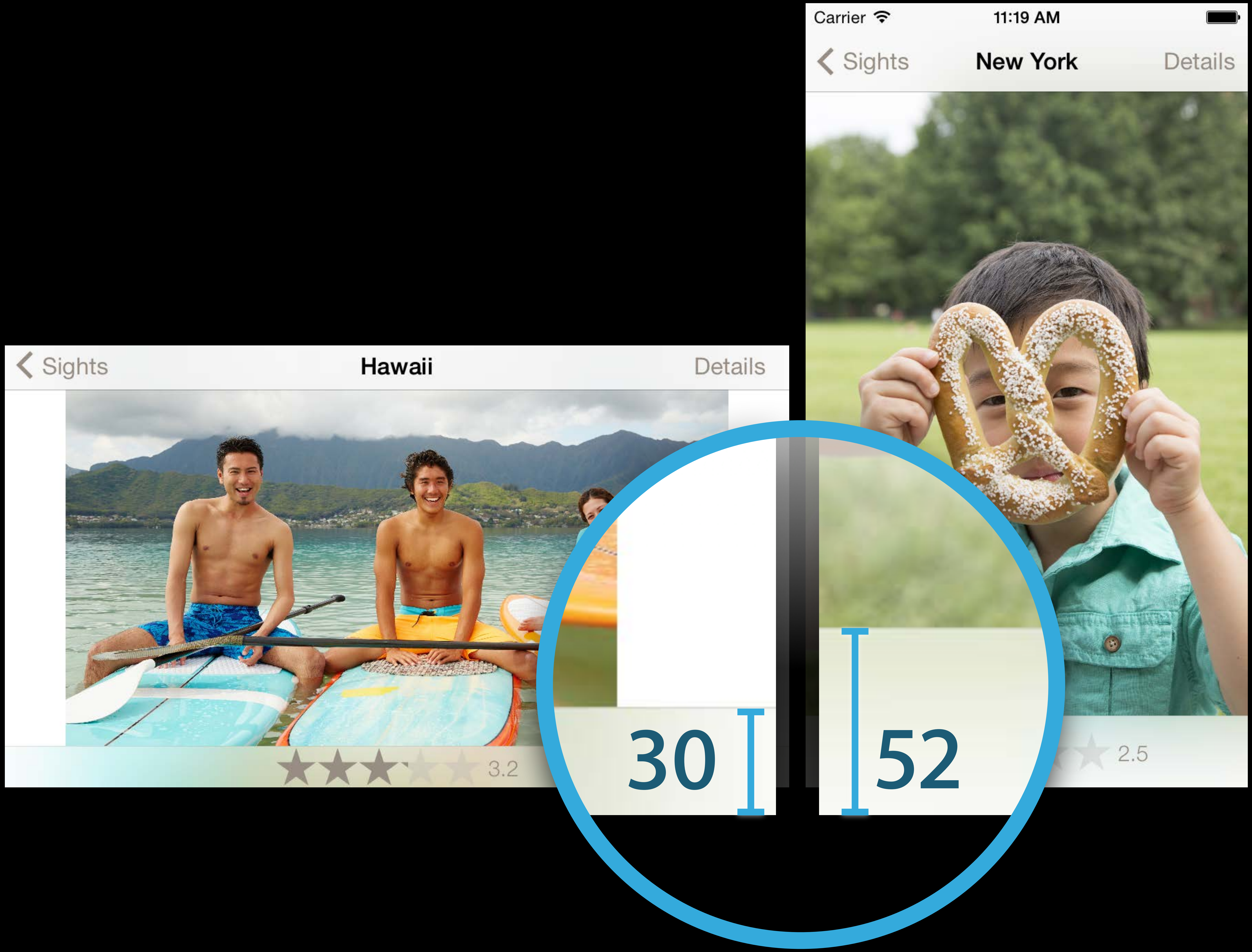
Example: Adapting the bar height





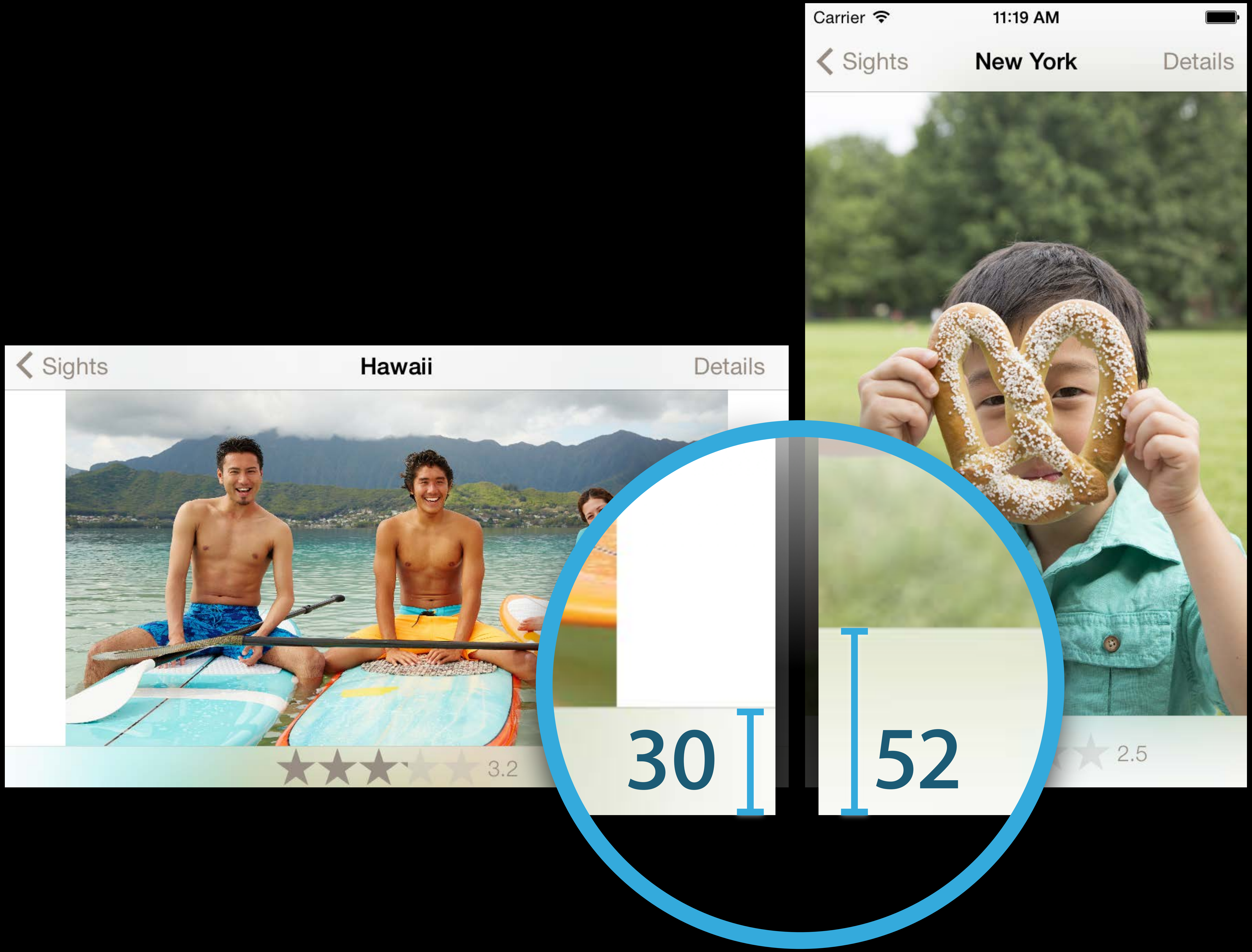
Size Classes

Example: Adapting the bar height



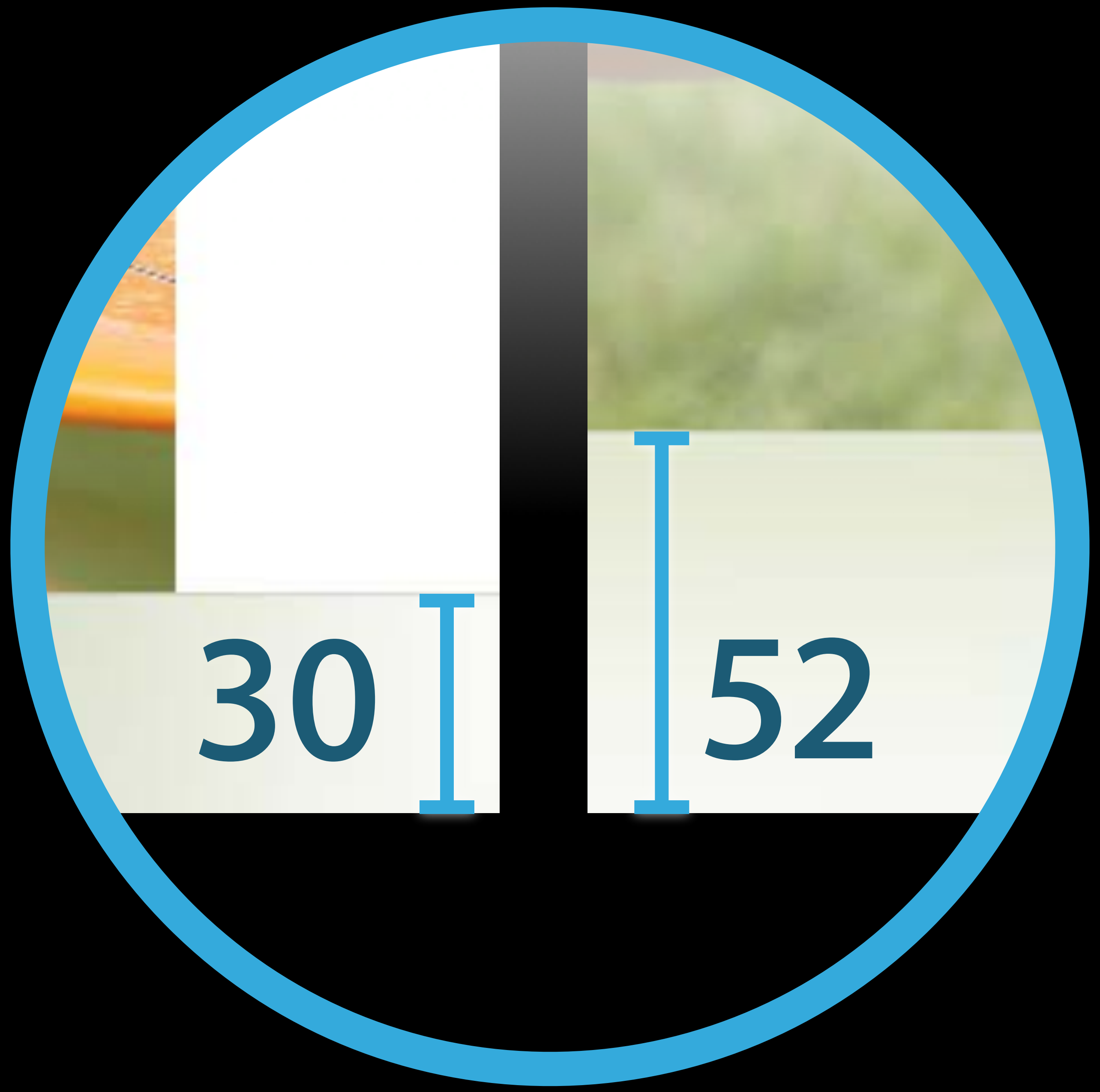
Size Classes

Example: Adapting the bar height



Size Classes

Example: Adapting the bar height



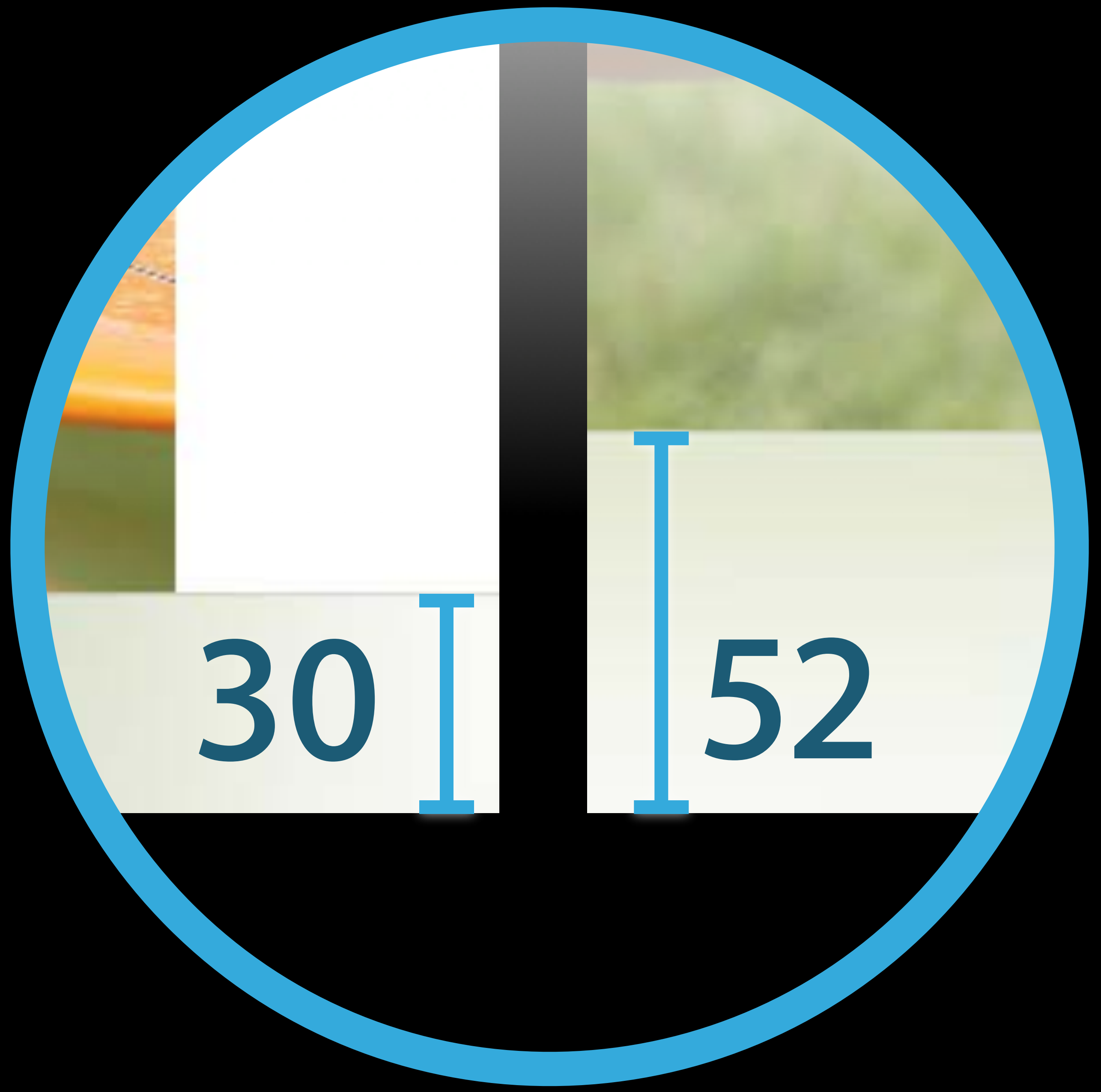
	Compact	Regular
Compact	30	30
Regular	52	52

Vertical

Horizontal

Size Classes

Example: Adapting the bar height



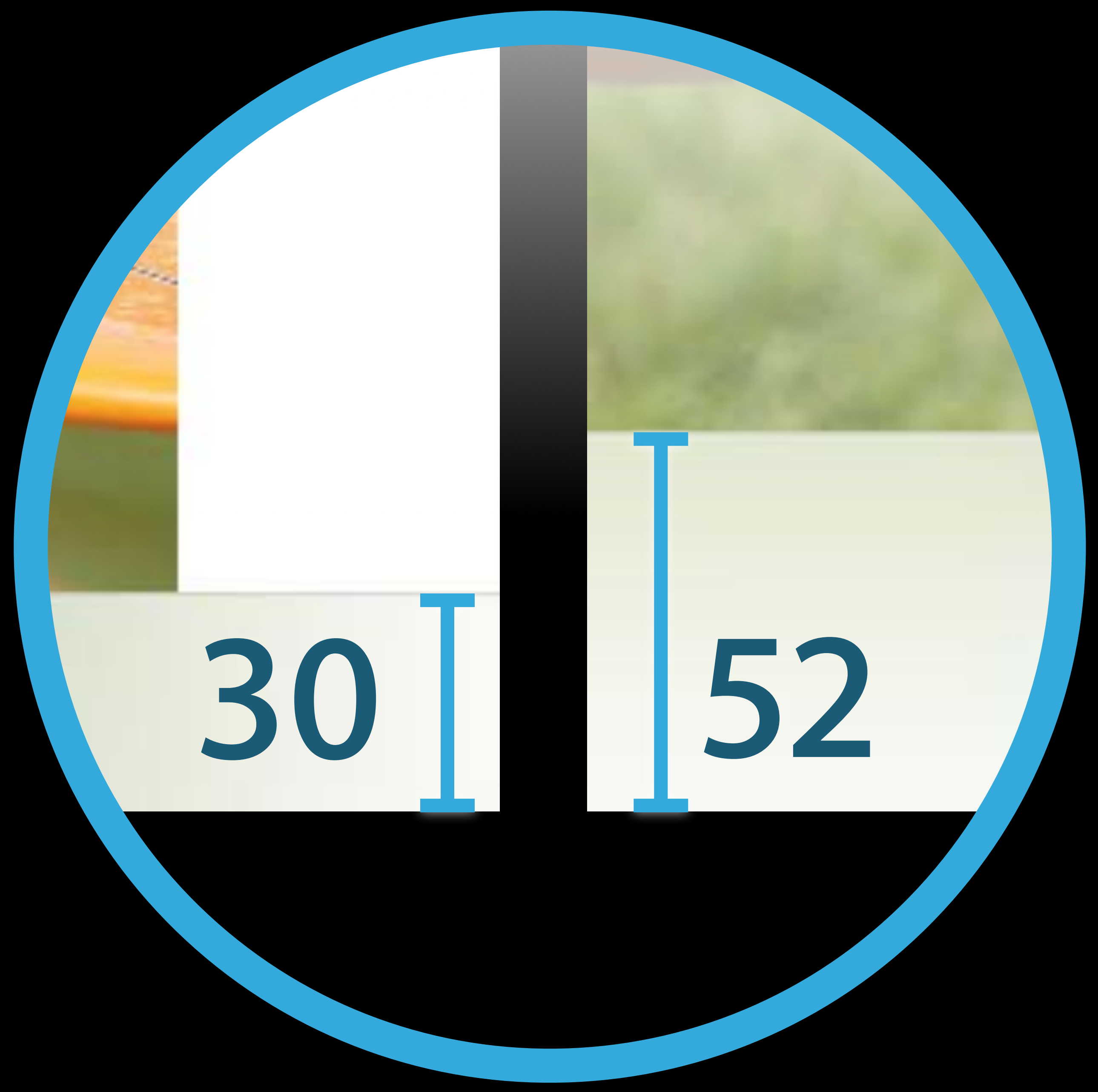
	Compact	Regular
Compact	30	30
Regular	52	52

Vertical

Horizontal

Size Classes

Example: Adapting the bar height



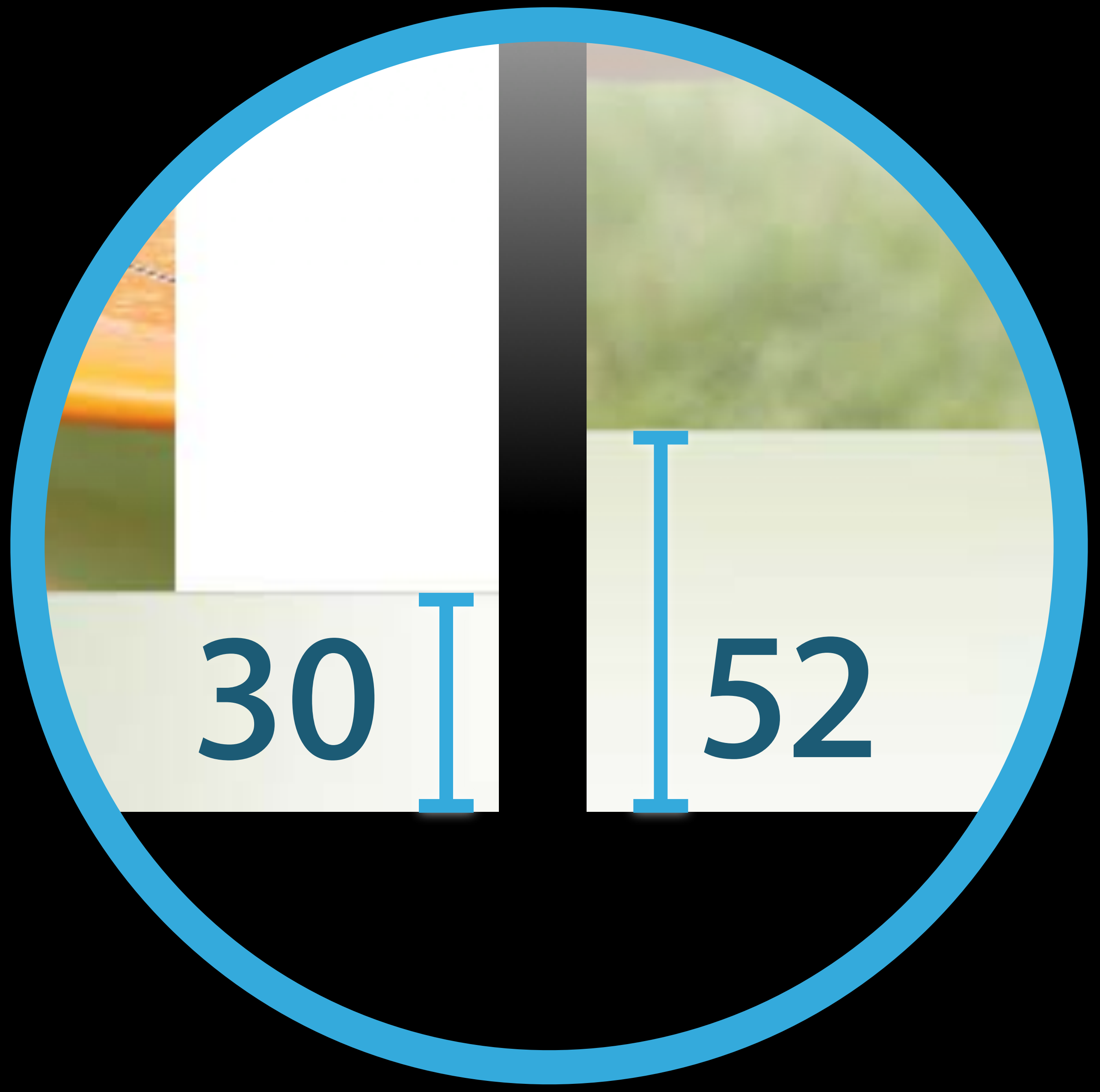
	Compact	Any	Regular
Compact	30		30
Any			
Regular	52		52

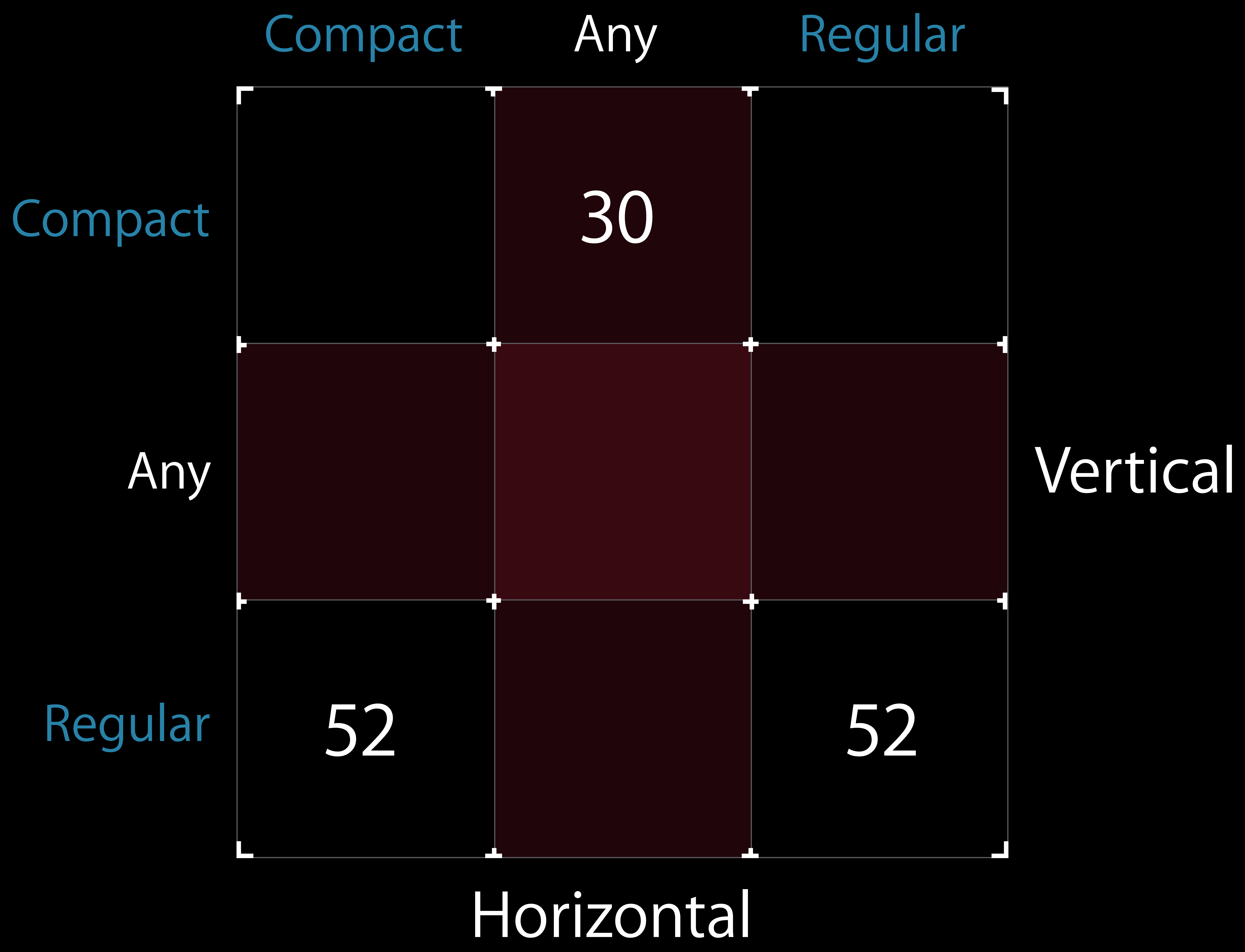
Vertical

Horizontal

Size Classes

Example: Adapting the bar height





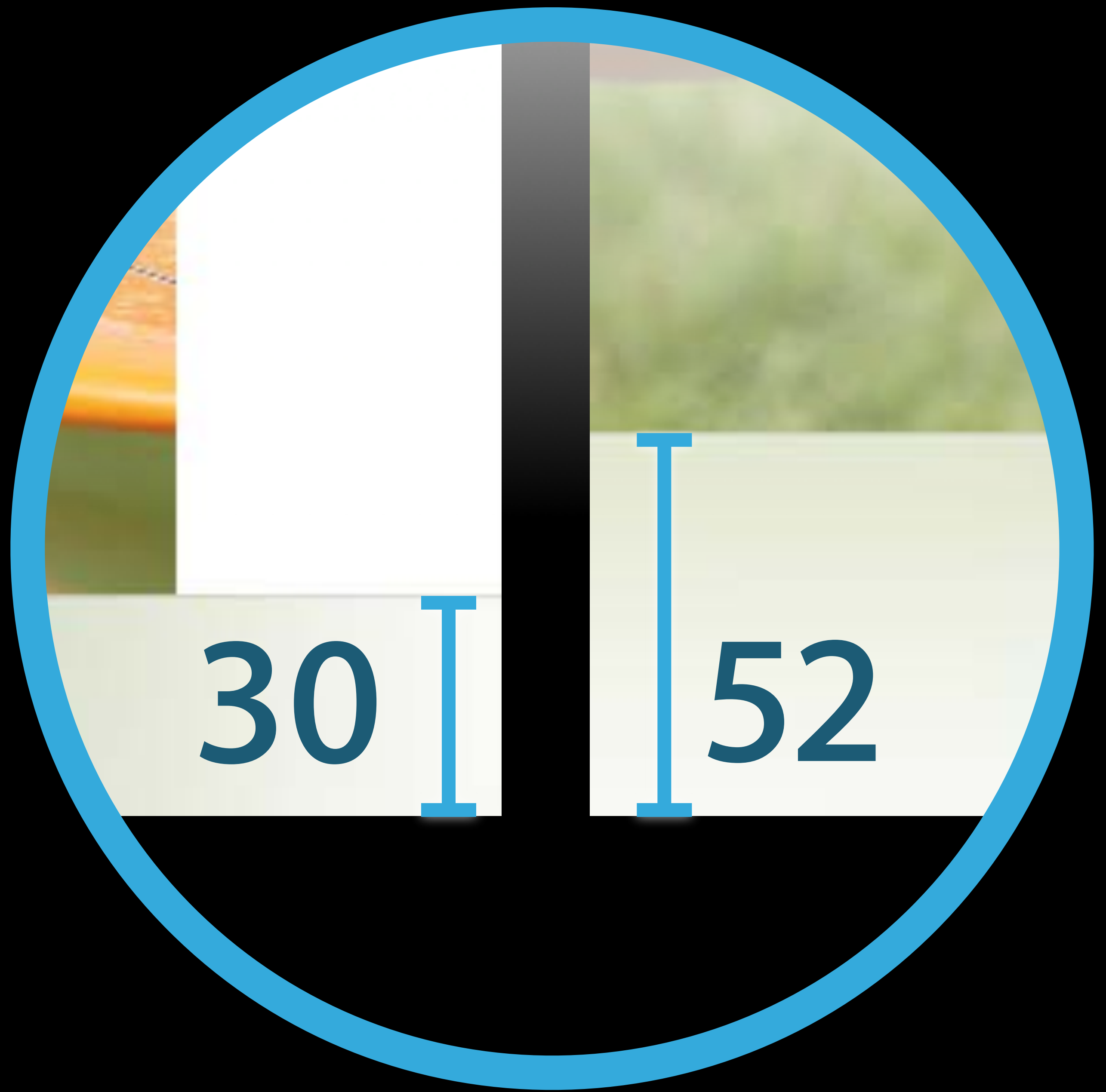
	Compact	Any	Regular
Compact		30	
Any			
Regular	52		52

Vertical

Horizontal

Size Classes

Example: Adapting the bar height



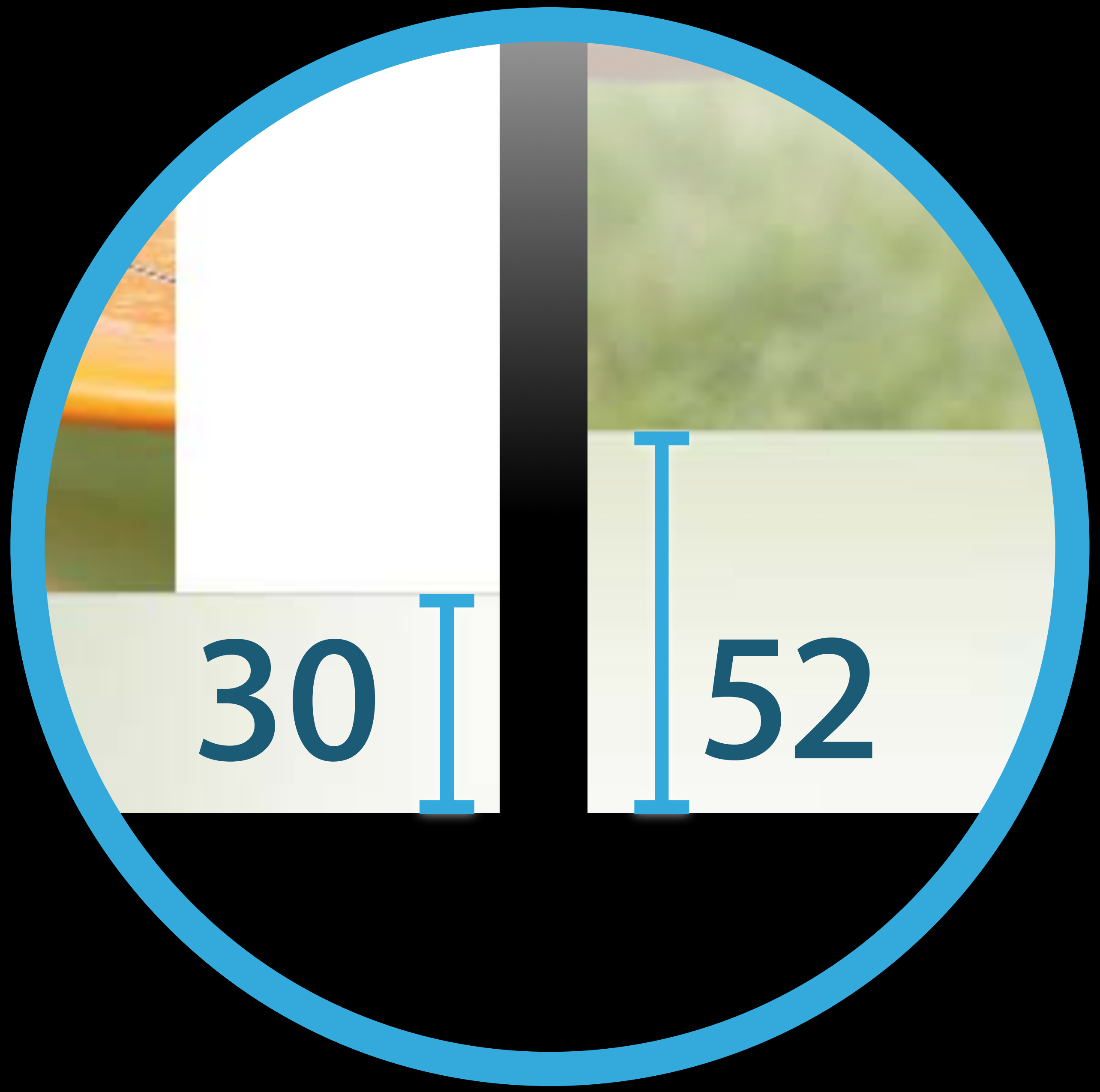
	Compact	Any	Regular
Compact		30	
Any			
Regular	52		52

Vertical

Horizontal

Size Classes

Example: Adapting the bar height



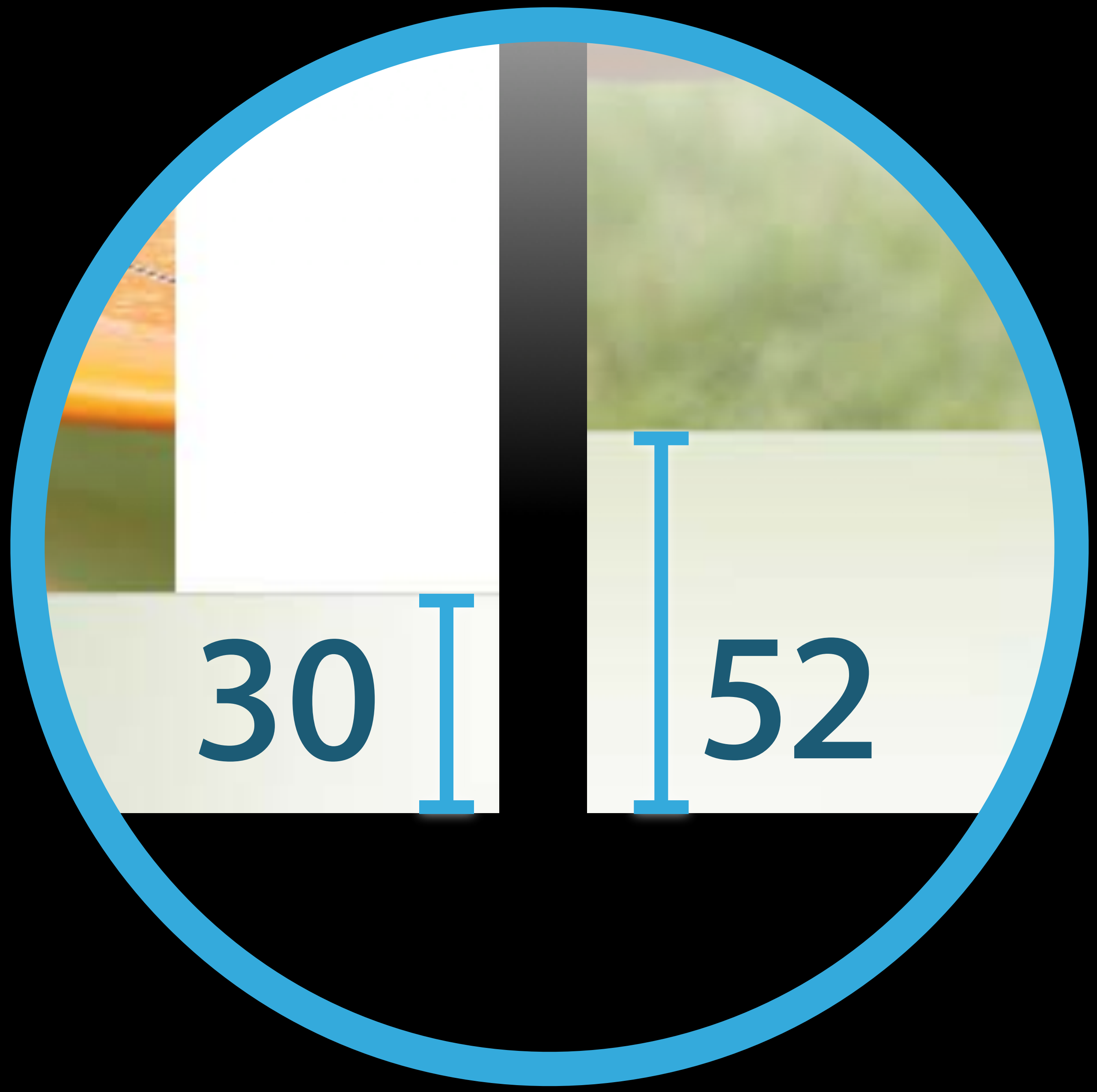
	Compact	Any	Regular
Compact		30	
Any			
Regular		52	

Vertical

Horizontal

Size Classes

Example: Adapting the bar height



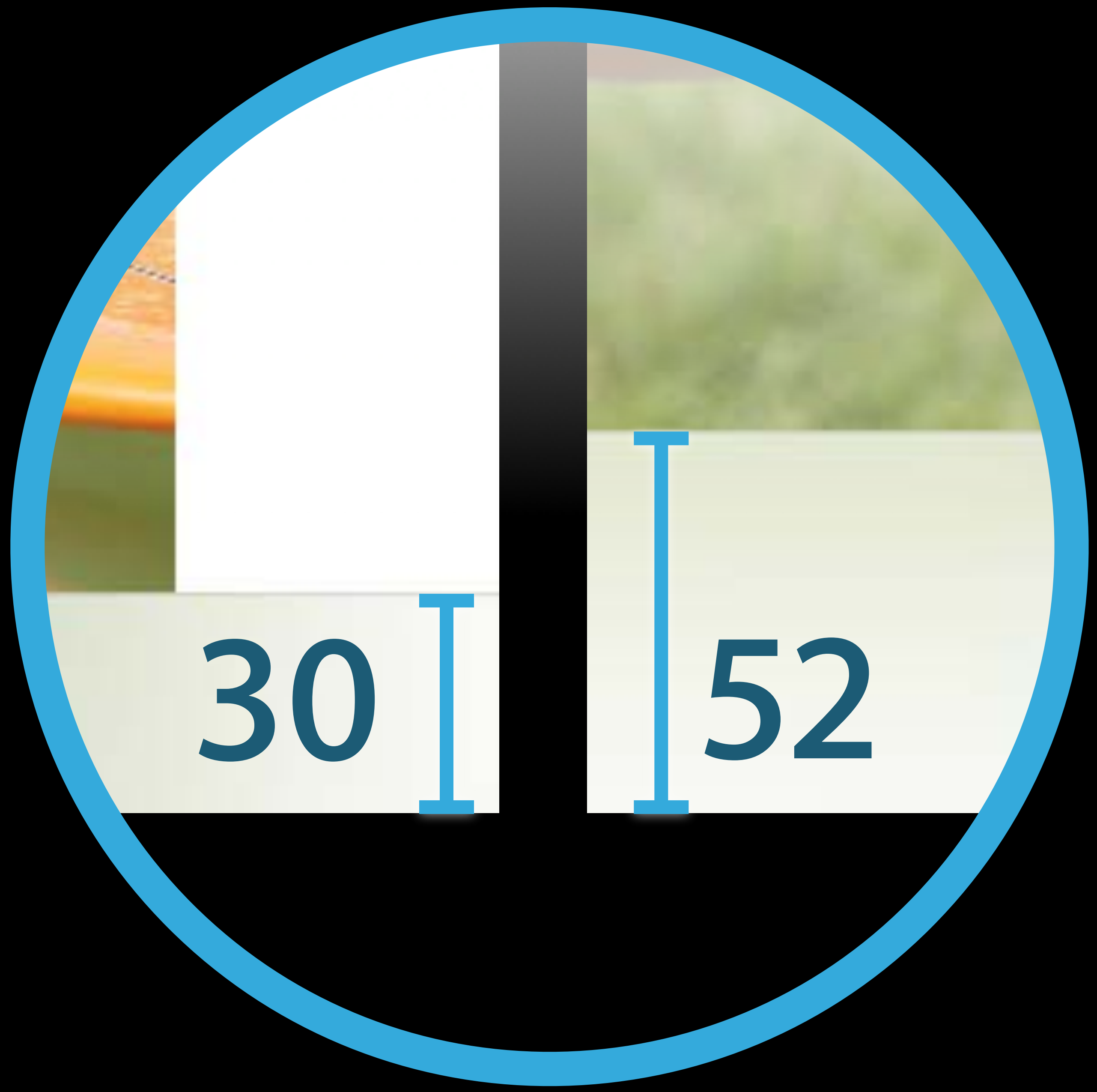
	Compact	Any	Regular
Compact		30	
Any		52	
Regular			

Vertical

Horizontal

Size Classes

Example: Adapting the bar height



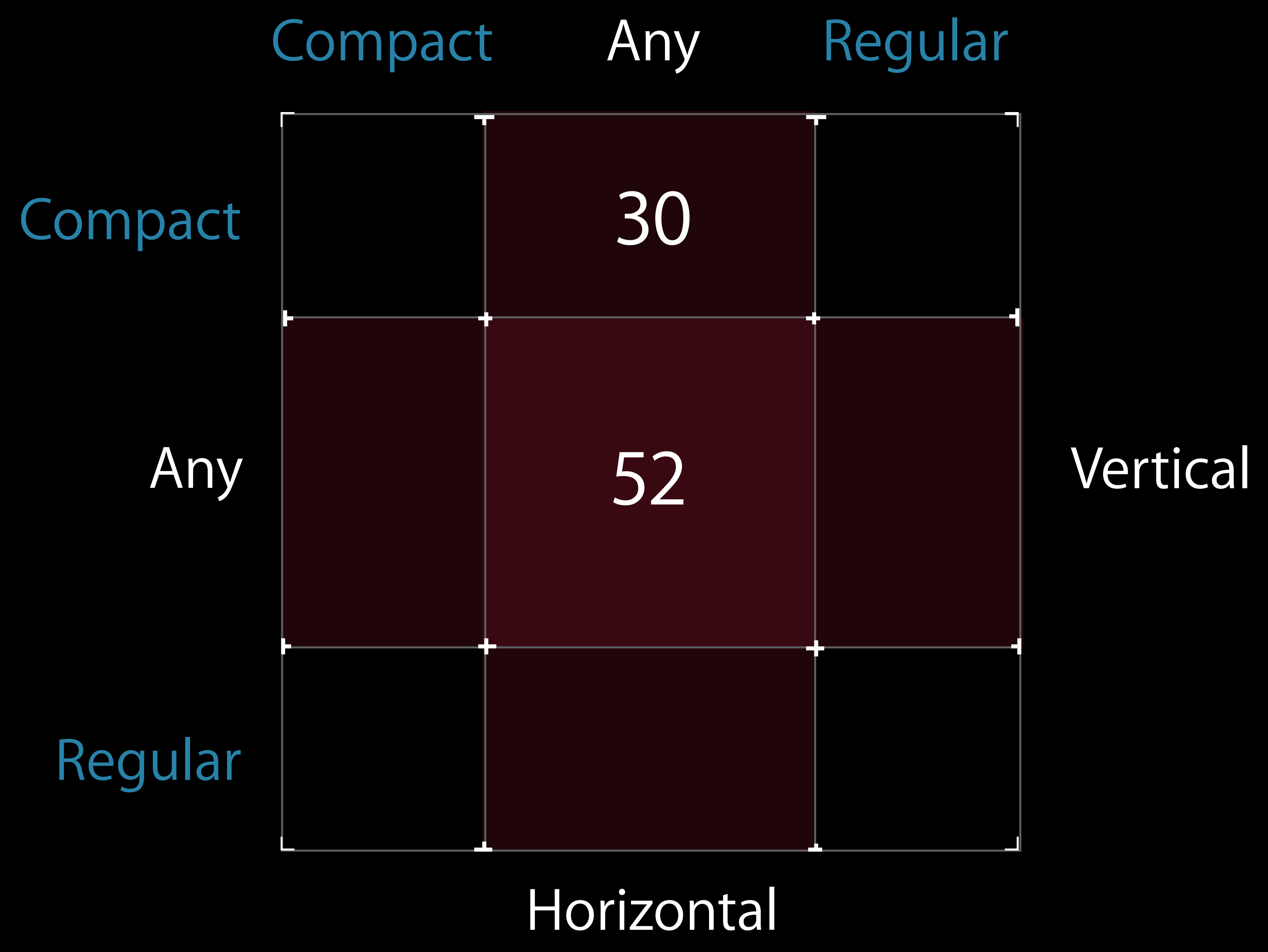
	Compact	Any	Regular
Compact		30	
Any		52	
Regular			

Vertical

Horizontal

Size Classes

Example: Adapting the bar height



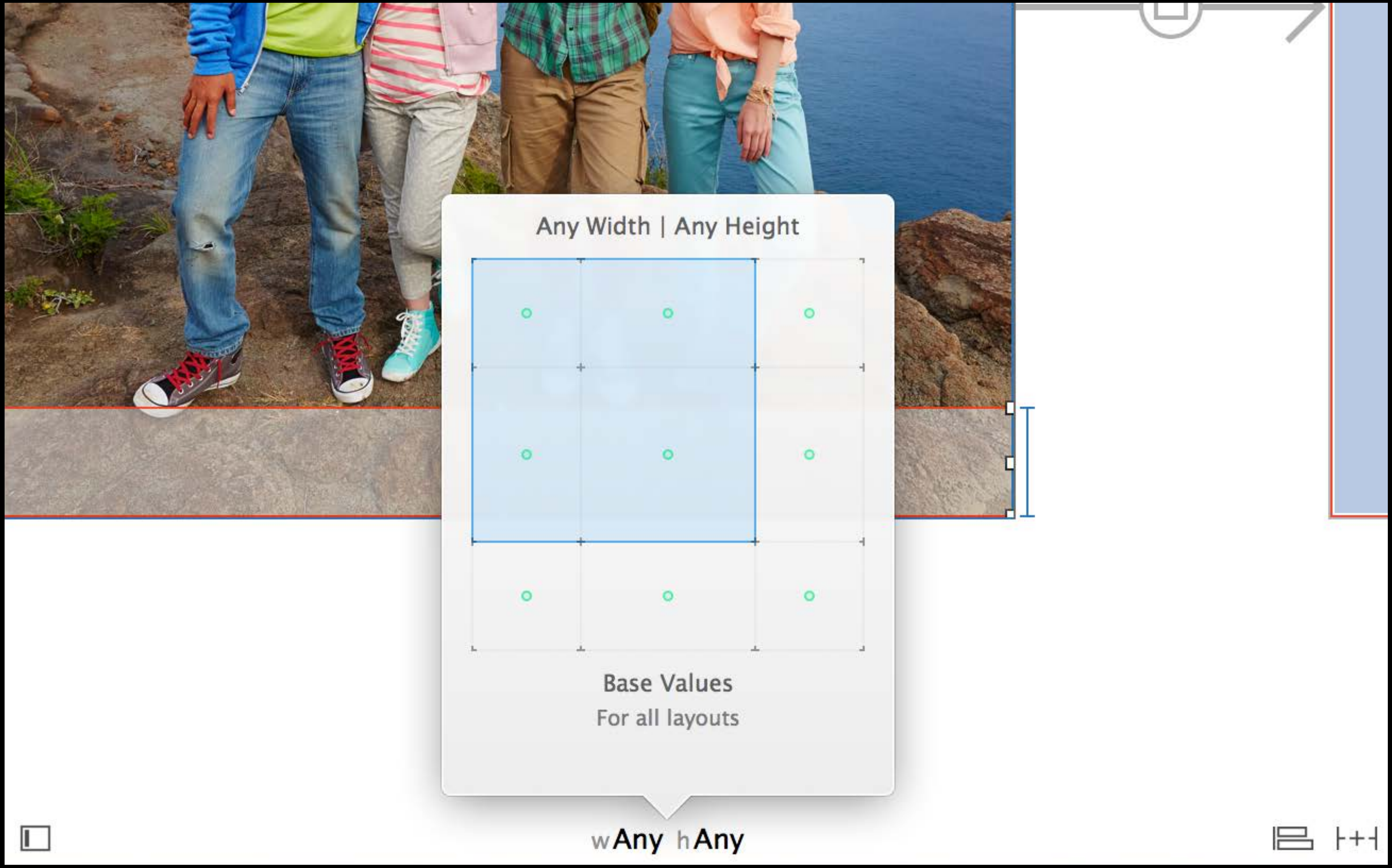
	Compact	Any	Regular
Compact		30	
Any		52	
Regular			

Vertical

Horizontal

Size Classes

Example: Adapting the bar height



Any Width | Any Height

Base Values

For all layouts

wAny hAny

Demo

Adopting size classes

Size Classes

Specify how objects change between different size magnitudes (size classes)

One size class per orientation

Three possible values per size class (Any, Compact, Regular)

Strategy: build in Any | Any, customize in specific configurations where needed

New Segue Types

Show: Asks responder chain to show view controller (e.g. push)

Show Detail: Asks responder chain to show detail (e.g. replace)

Present Modally: Present view controller with new `UIPresentationController`

Popover Presentation: Variant of Present Modally that uses `UIPopoverPresentationController`

Use these segues instead of explicit push, replace, modal, etc.

What’s New in Interface Builder

Bringing your app to the canvas

Quinn Taylor
Interface Builder Engineer

Asset Catalogs

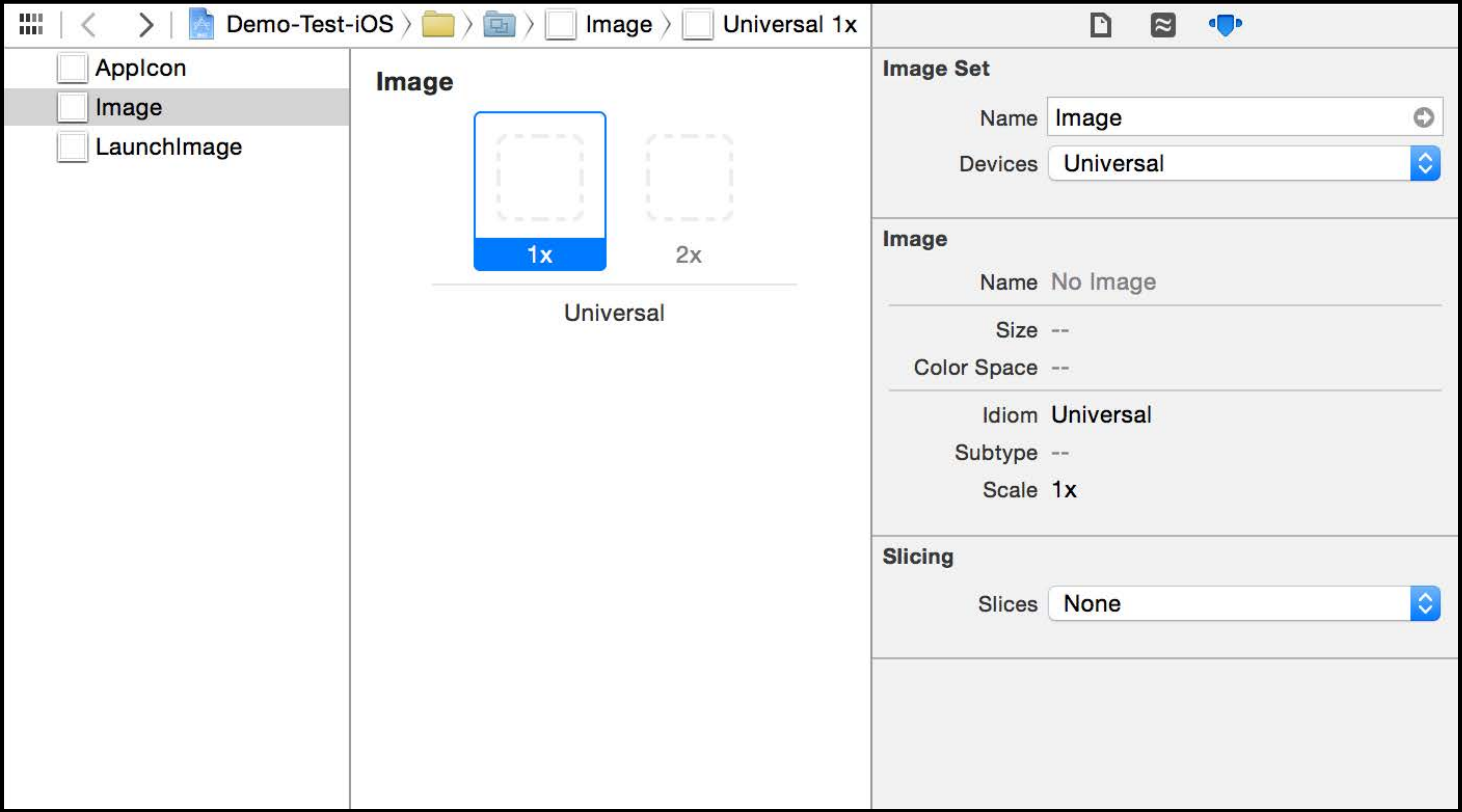


Image Set

Name: Image

Devices: Universal

Image

Name: No Image

Size: --

Color Space: --

Idiom: Universal

Subtype: --

Scale: 1x

Slicing

Slices: None

Asset Catalogs—Size Classes

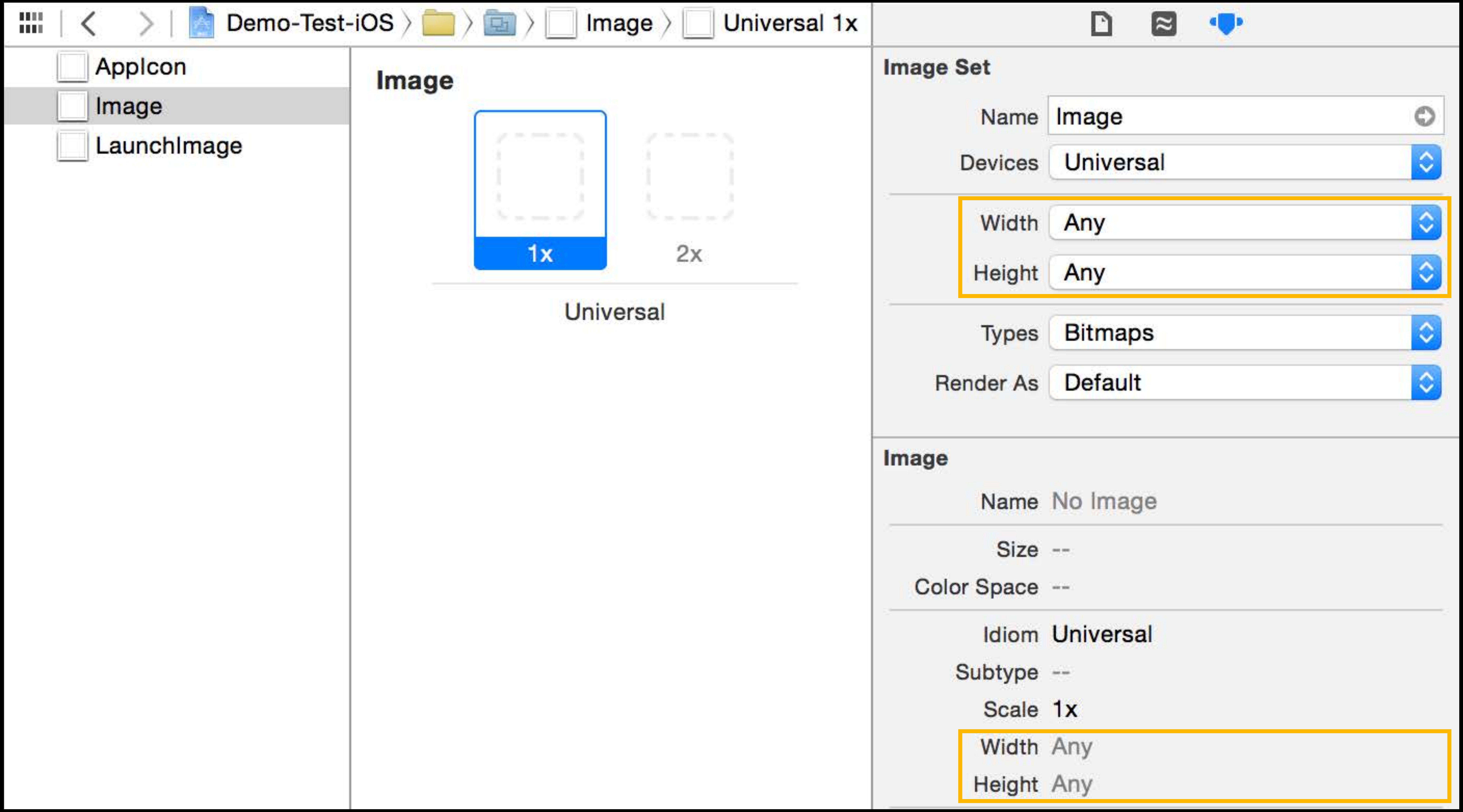


Image Set

Name: Image

Devices: Universal

Width: Any

Height: Any

Types: Bitmaps

Render As: Default

Image

Name: No Image

Size: --

Color Space: --

Idiom: Universal

Subtype: --

Scale: 1x

Width: Any

Height: Any

Asset Catalogs—Size Classes

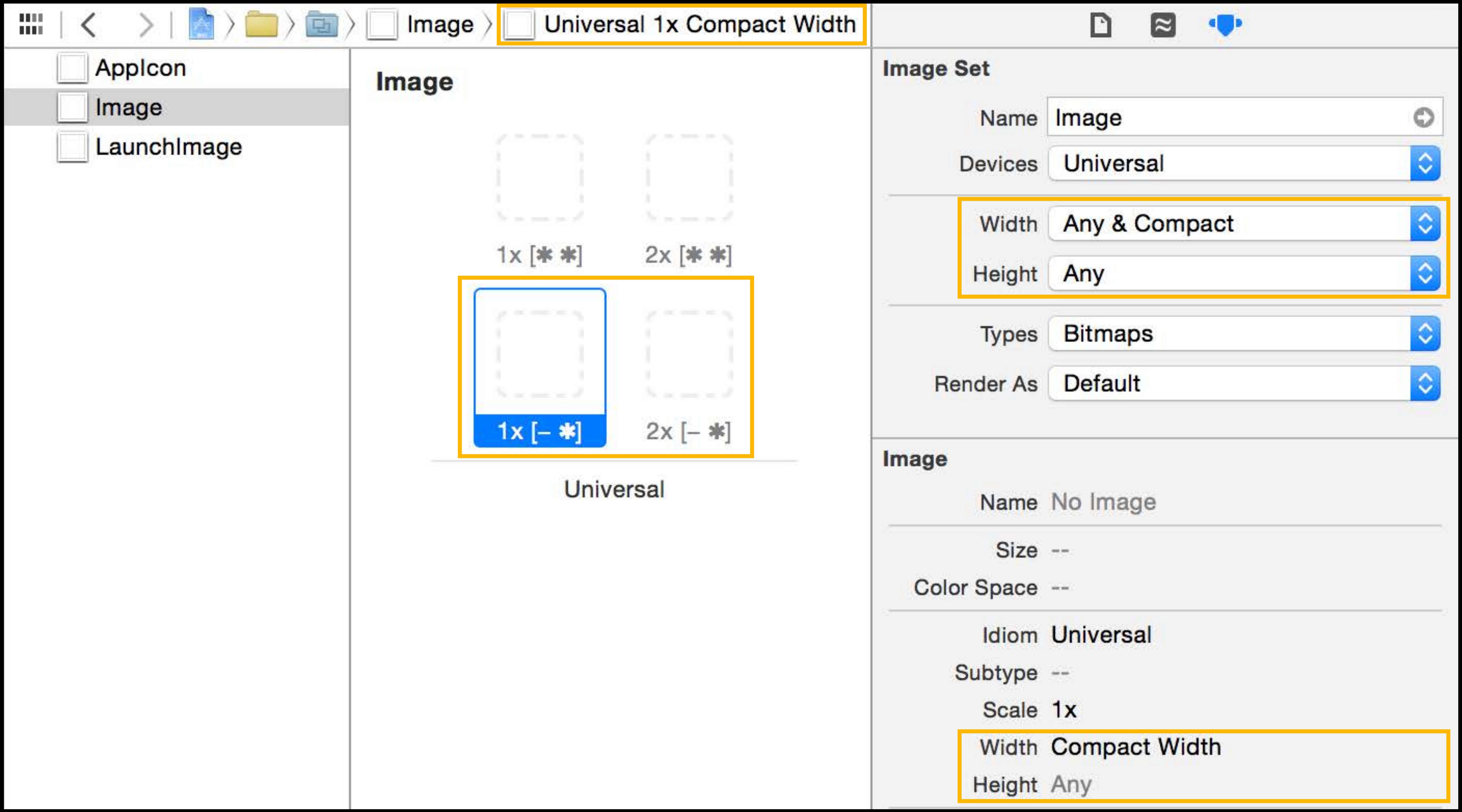


Image > Universal 1x Compact Width

Image Set

Name: Image

Devices: Universal

Width: Any & Compact

Height: Any

Types: Bitmaps

Render As: Default

Image

Name: No Image

Size: --

Color Space: --

Idiom: Universal

Subtype: --

Scale: 1x

Width: Compact Width

Height: Any

Asset Catalogs—Alignment

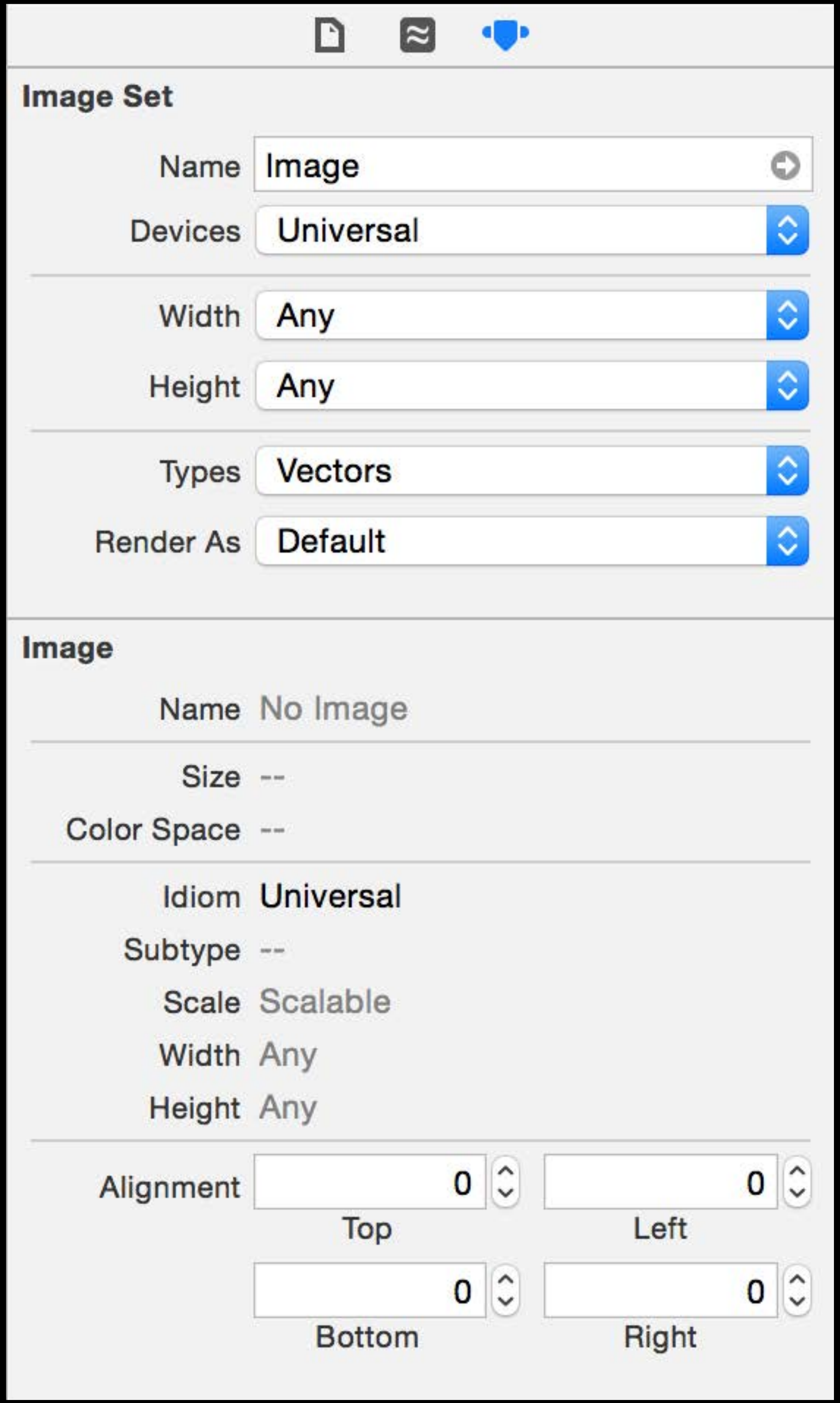


Image Set

Name: Image

Devices: Universal

Width: Any

Height: Any

Types: Vectors

Render As: Default

Image

Name: No Image

Size: --

Color Space: --

Idiom: Universal

Subtype: --

Scale: Scalable

Width: Any

Height: Any

Alignment: Top 0, Left 0, Bottom 0, Right 0

Asset Catalogs—Alignment

Image content may not fill all the space

- Padding, such as glow effect

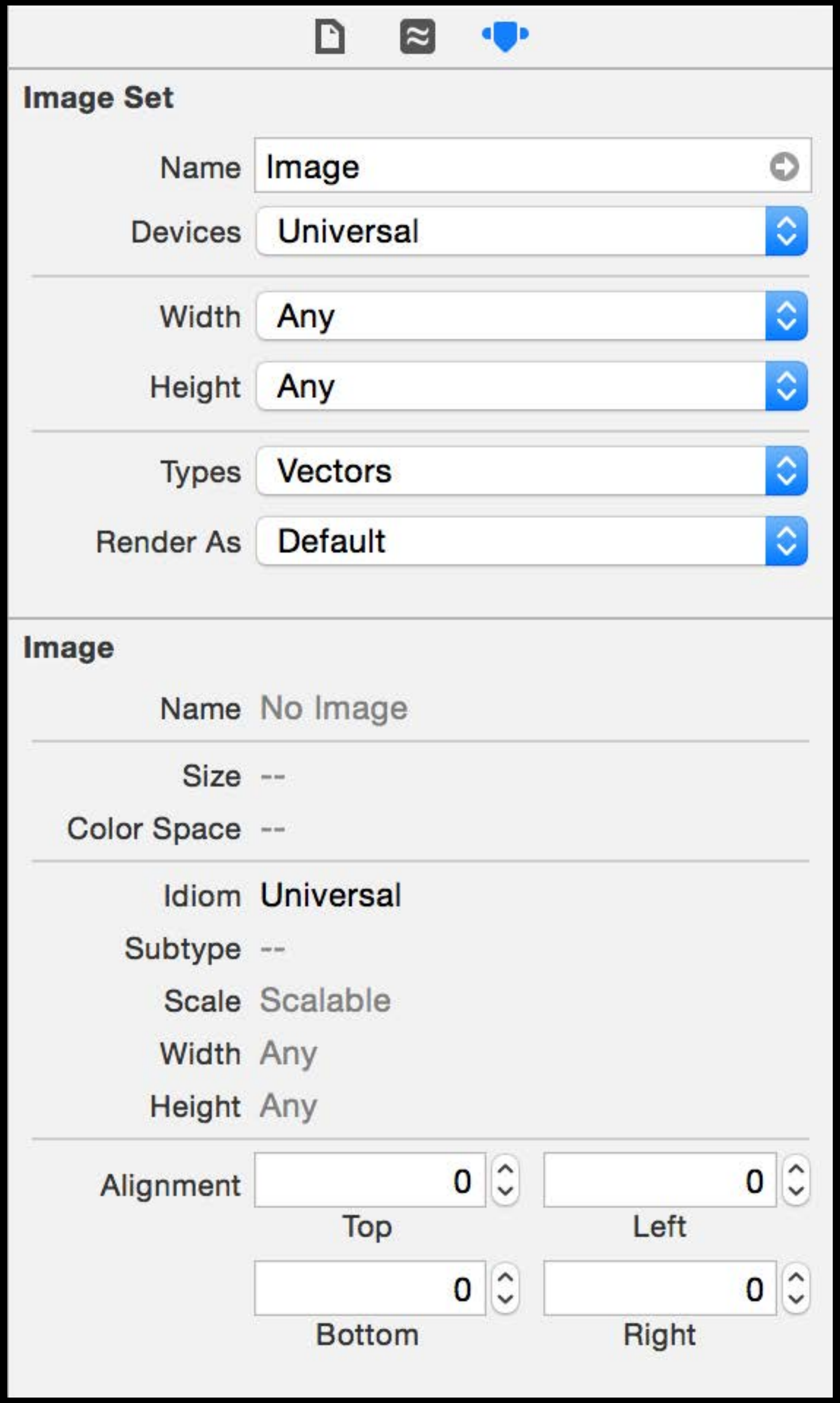


Image Set

Name: Image

Devices: Universal

Width: Any

Height: Any

Types: Vectors

Render As: Default

Image

Name: No Image

Size: --

Color Space: --

Idiom: Universal

Subtype: --

Scale: Scalable

Width: Any

Height: Any

Alignment: Top 0, Left 0, Bottom 0, Right 0

Asset Catalogs—Alignment

Image content may not fill all the space

- Padding, such as glow effect

Specify alignment (per scale) from each edge

```
NSImage.alignmentRect (NSRect)
UIImage.alignmentRectInsets (UIEdgeInsets)
```

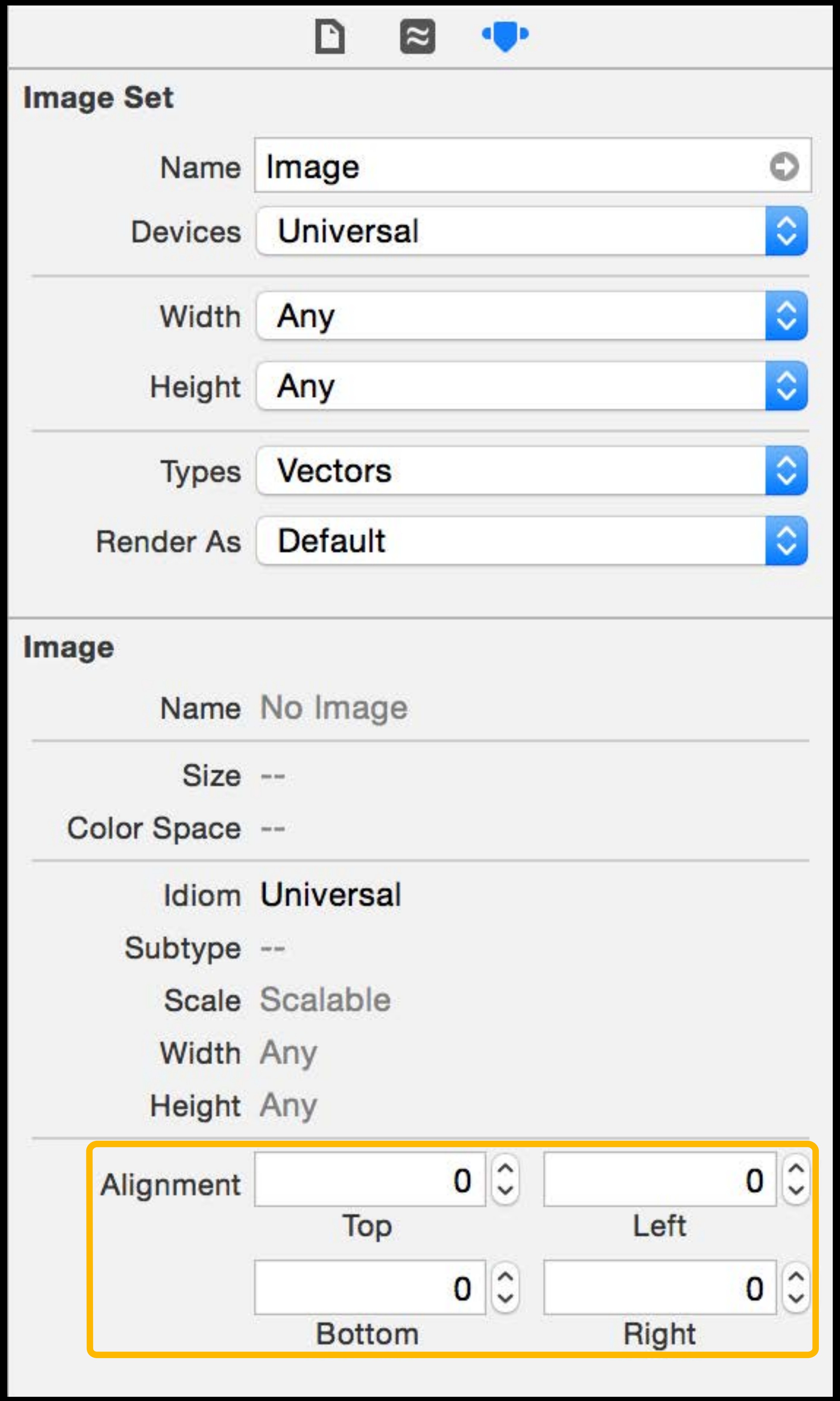


Image Set

Name: Image
Devices: Universal
Width: Any
Height: Any
Types: Vectors
Render As: Default

Image

Name: No Image
Size: --
Color Space: --
Idiom: Universal
Subtype: --
Scale: Scalable
Width: Any
Height: Any

Alignment: Top 0, Left 0, Bottom 0, Right 0

Asset Catalogs—Image Formats

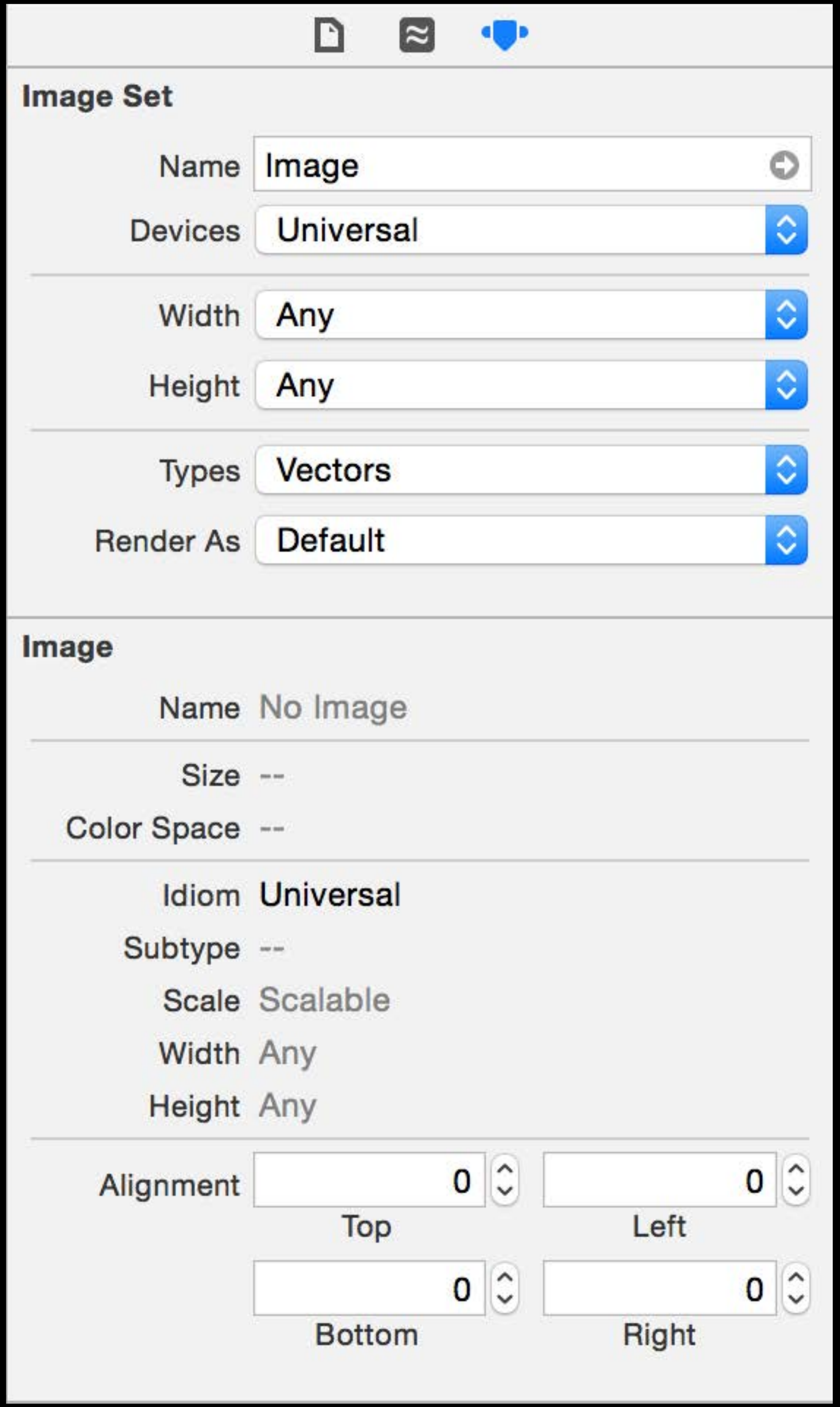


Image Set

Name: Image

Devices: Universal

Width: Any

Height: Any

Types: Vectors

Render As: Default

Image

Name: No Image

Size: --

Color Space: --

Idiom: Universal

Subtype: --

Scale: Scalable

Width: Any

Height: Any

Alignment: Top 0, Left 0, Bottom 0, Right 0

Asset Catalogs—Image Formats

JPEG images

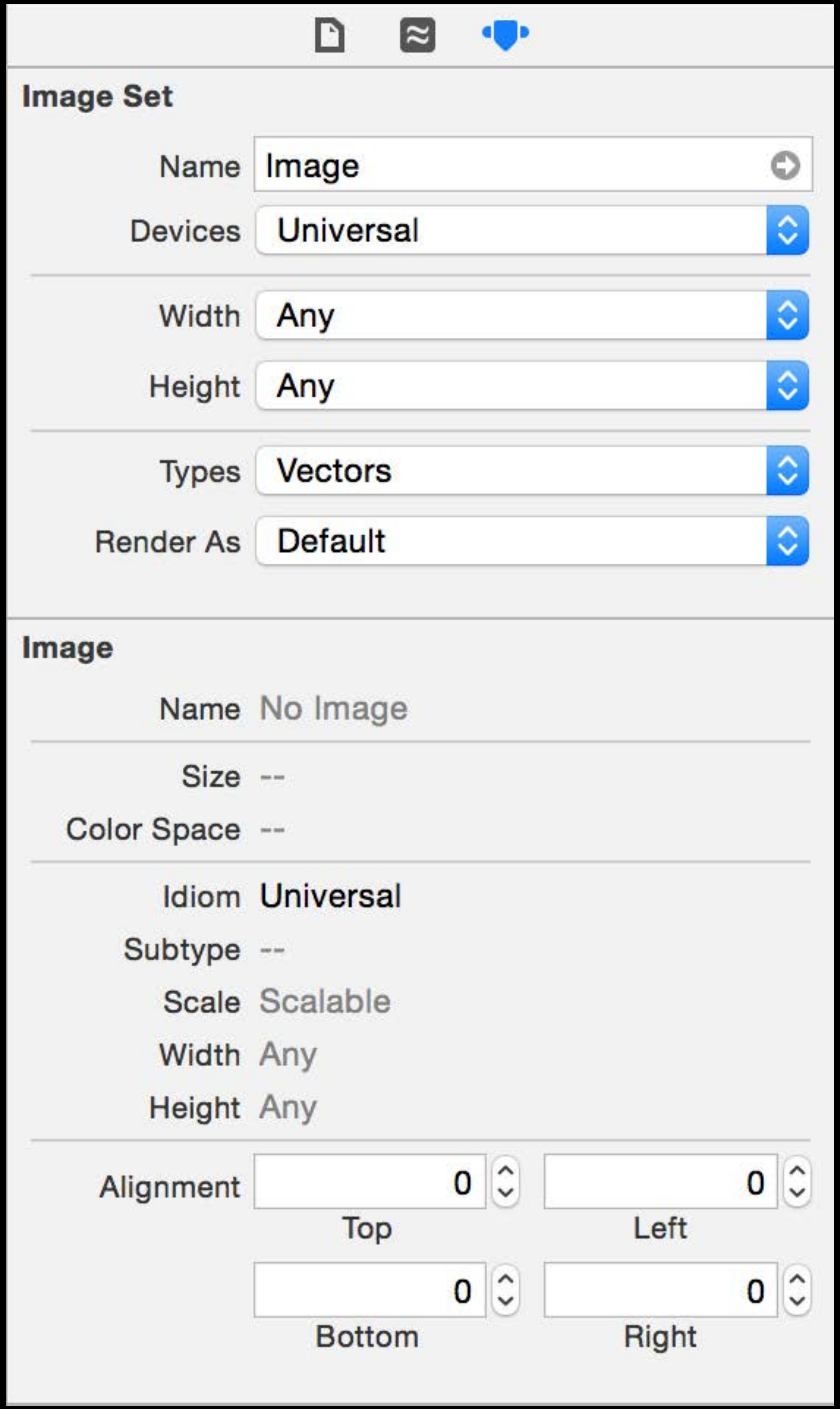


Image Set

Name: Image

Devices: Universal

Width: Any

Height: Any

Types: Vectors

Render As: Default

Image

Name: No Image

Size: --

Color Space: --

Idiom: Universal

Subtype: --

Scale: Scalable

Width: Any

Height: Any

Alignment: Top 0, Left 0, Bottom 0, Right 0

Asset Catalogs—Image Formats

JPEG images

PDF vector images

- iOS rasterizes at build time
- OS X scales, including for printing
- Mix bitmap and vector

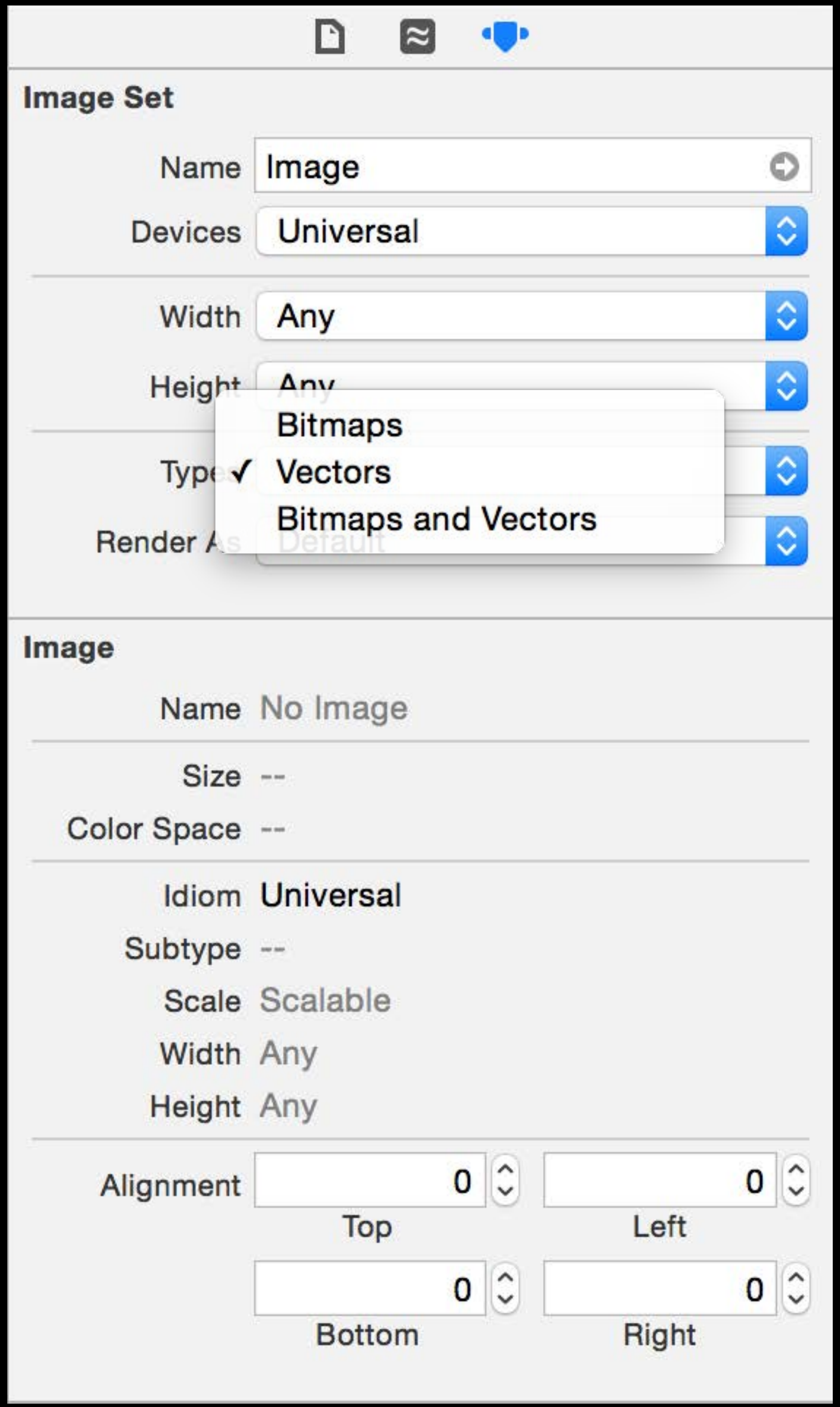


Image Set

Name: Image

Devices: Universal

Width: Any

Height: Any

Typ: ✓ Vectors

Render As: Default

Image

Name: No Image

Size: --

Color Space: --

Idiom: Universal

Subtype: --

Scale: Scalable

Width: Any

Height: Any

Alignment: Top 0, Left 0, Bottom 0, Right 0

Asset Catalogs—Image Formats

JPEG images

PDF vector images

- iOS rasterizes at build time
- OS X scales, including for printing
- Mix bitmap and vector

Template images

- Default for names ending in “Template”
- Override behavior as needed

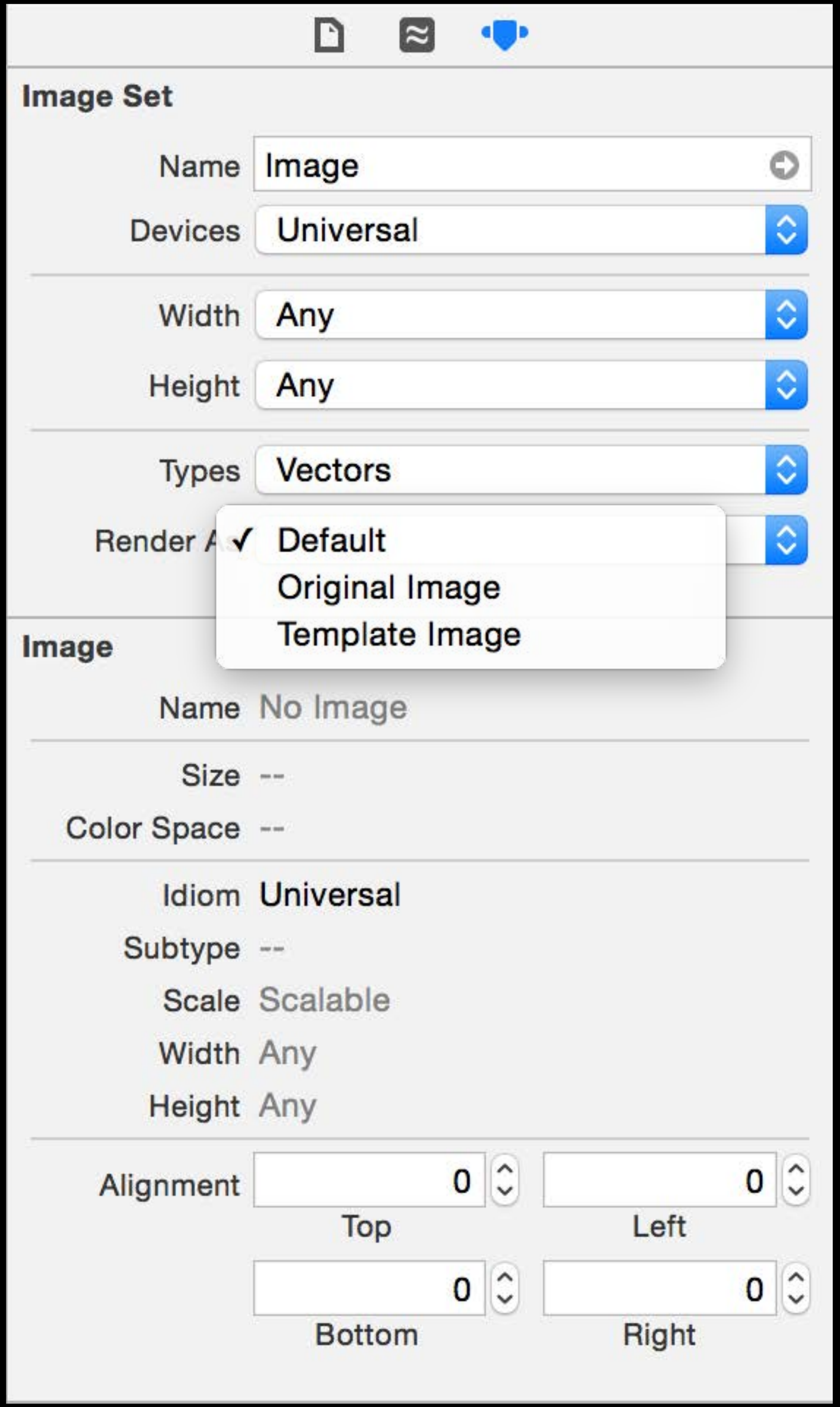


Image Set

Name Image

Devices Universal

Width Any

Height Any

Types Vectors

Render A

Image

Name No Image

Size --

Color Space --

Idiom Universal

Subtype --

Scale Scalable

Width Any

Height Any

Alignment 0 Top 0 Left

0 Bottom 0 Right

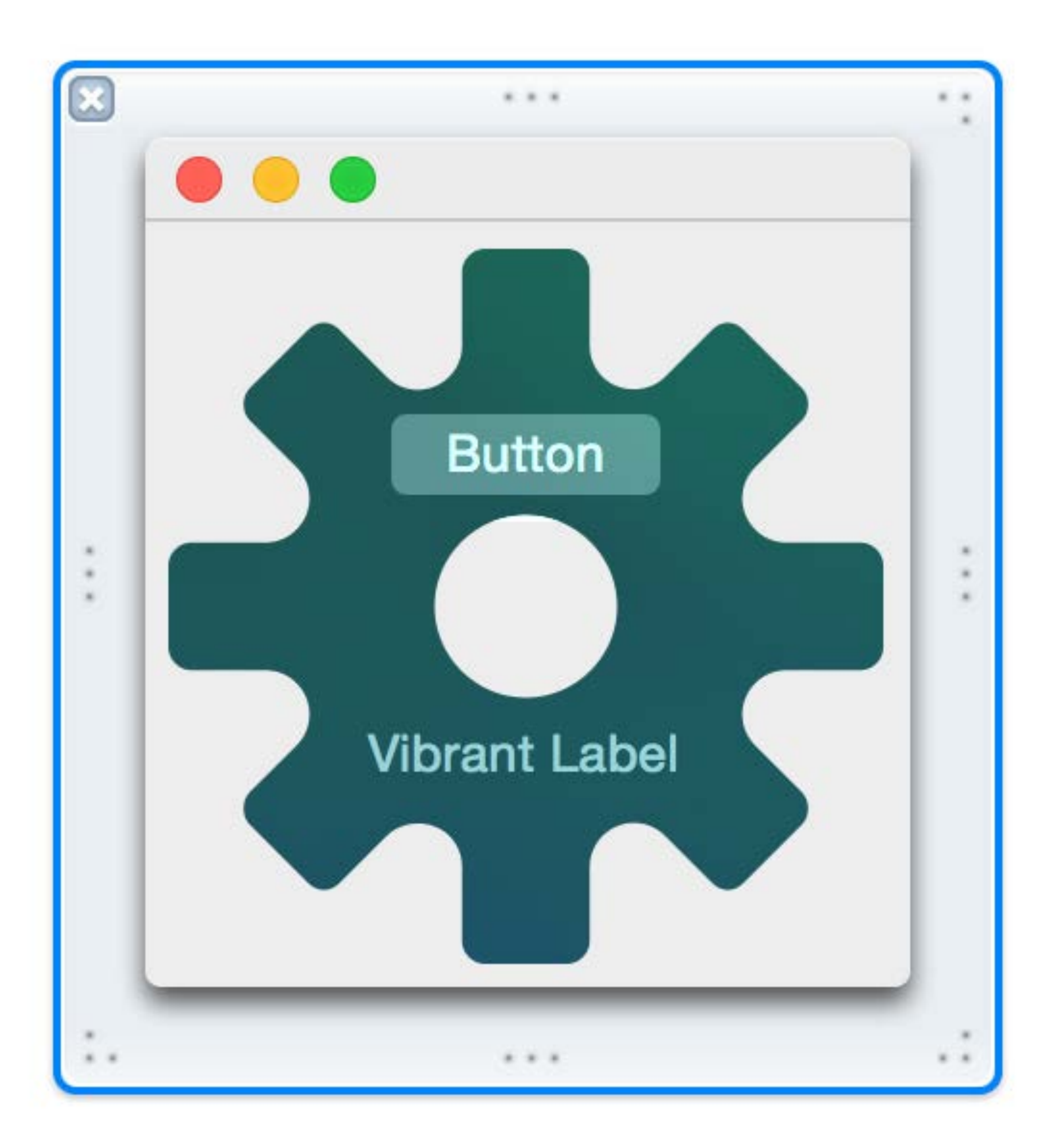
OS X—NSVisualEffectView

OS X—NSVisualEffectView

New class in 10.10, fully supported in IB

Blur, vibrancy, punch-through, masking

Custom views can override `-allowsVibrancy`

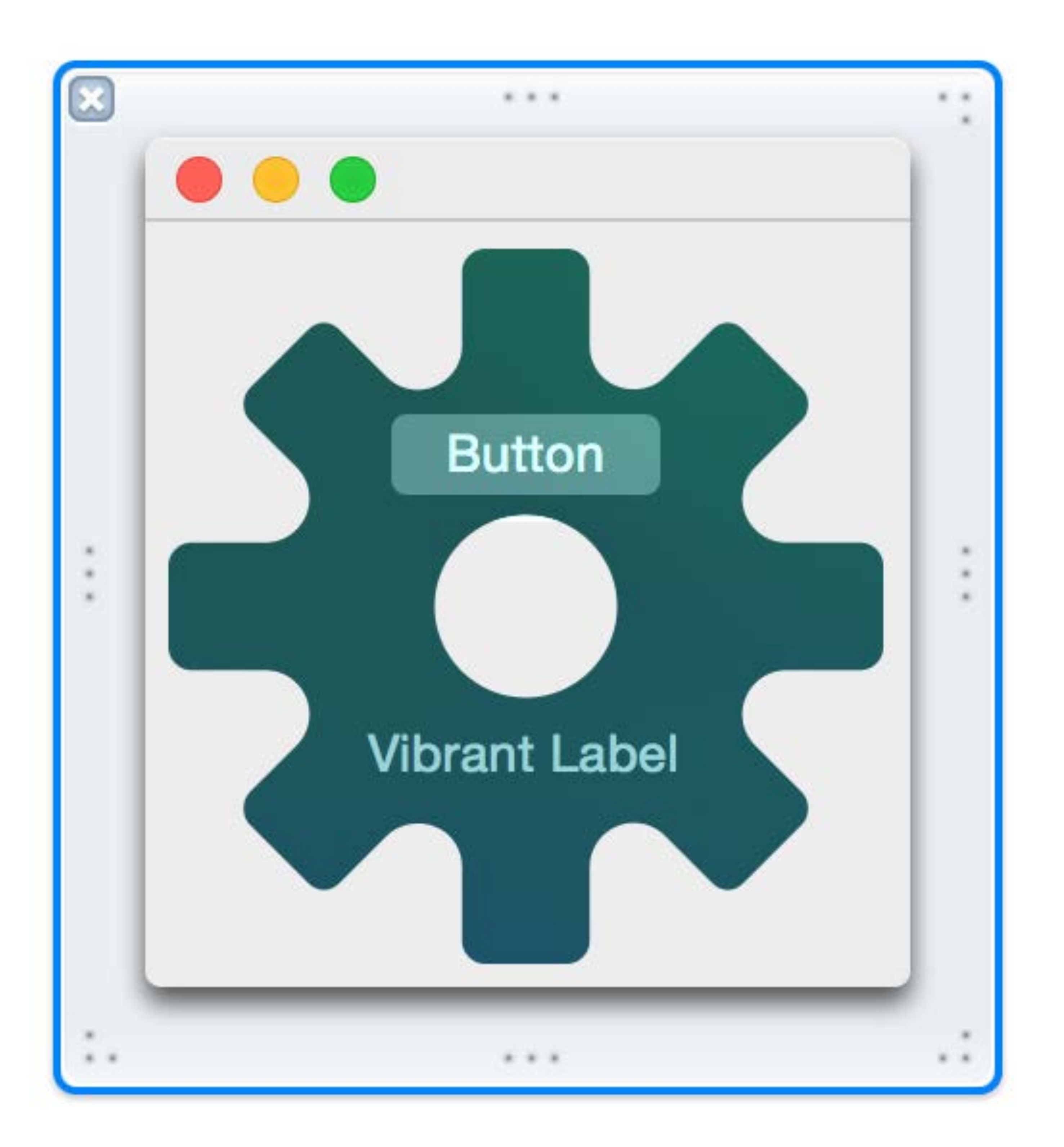


OS X—NSVisualEffectView

New class in 10.10, fully supported in IB

Blur, vibrancy, punch-through, masking

Custom views can override `-allowsVibrancy`



- Adopting Advanced Features of the New UI of OS X Yosemite — Wednesday 2:00PM

OS X—New System Font

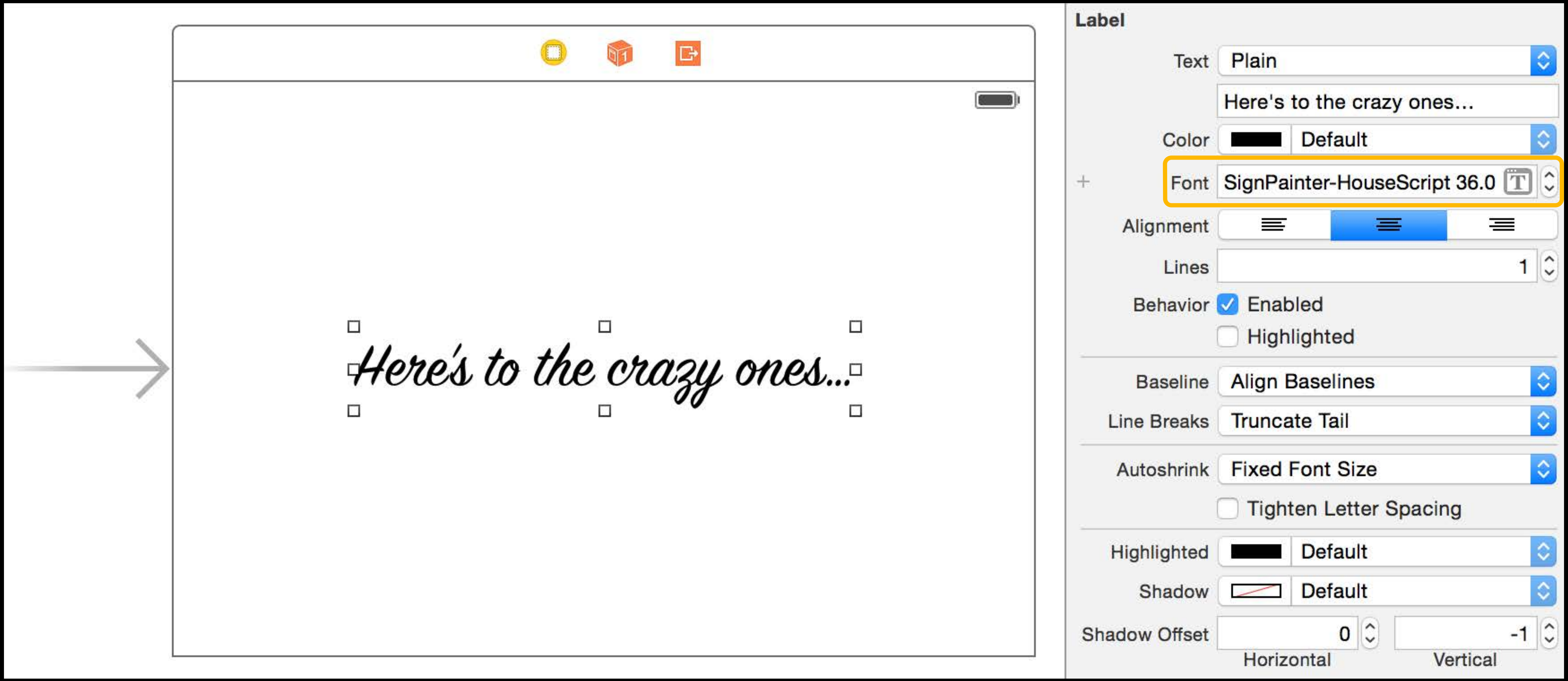
OS X—New System Font

Use the system font, it just works

iOS—Custom Fonts

iOS—Custom Fonts

Fonts in your project now appear in IB font chooser



Label

Text: Plain

Here's to the crazy ones...

Color: Default

Font: SignPainter-HouseScript 36.0

Alignment

Lines: 1

Behavior: ☑ Enabled

□ Highlighted

Baseline: Align Baselines

Line Breaks: Truncate Tail

Autoshrink: Fixed Font Size

□ Tighten Letter Spacing

Highlighted: Default

Shadow: Default

Shadow Offset: 0 Horizontal, -1 Vertical

Demo

Summary

Summary

Liveness

Live Views

Inspectable Properties

iOS Custom Fonts

Localization

Summary

Liveness

Live Views

Inspectable Properties

iOS Custom Fonts

Localization

Adaptability

iOS Size Classes

Aspect Ratio Constraints

Cross-Attribute Constraints

Asset Catalog Enhancements

Summary

Liveness

Live Views

Inspectable Properties

iOS Custom Fonts

Localization

Adaptability

iOS Size Classes

Aspect Ratio Constraints

Cross-Attribute Constraints

Asset Catalog Enhancements

Power & Parity

Find and Replace

OS X Gesture Recognizers

OS X Storyboards

NSVisualEffectView

More Information

Dave DeLong
Developer Tools Evangelist
delong@apple.com

Documentation
http://developer.apple.com

Apple Developer Forums
http://devforums.apple.com

Related Sessions

🟠	What’s New in Xcode 6	Tuesday 9:00AM
🔵	What’s New in Cocoa Touch	Tuesday 10:15AM
🔵	What’s New in Cocoa	Tuesday 11:30AM
🟠	Localizing with Xcode 6	Tuesday 11:30AM
🔵	Storyboards and Controllers on OS X	Tuesday 4:30PM
🔵	Building Adaptive Apps with UIKit	Wednesday 10:15AM
🔵	Adopting Advanced Features of the New UI of OS X Yosemite	Wednesday 2:00PM

Labs

Xcode and Interface Builder	Tools Lab C	Thursday 9:00AM
Interface Builder and Auto Layout	Tools Lab C	Friday 9:00 AM

WWDC14