Size Classes

iOS 11 is compatible with these devices.

iPhone

- iPhone X
- iPhone 8
- iPhone 8 Plus
- iPhone 7
- iPhone 7 Plus
- iPhone 6s
- iPhone 6s Plus
- iPhone 6
- iPhone 6 Plus
- iPhone SE
- iPhone 5s

iPad

- 12.9-inch iPad Pro 2nd generation
- 12.9-inch iPad Pro 1st generation
- 10.5-inch iPad Pro
- 9.7-inch iPad Pro
- iPad Air 2
- iPad Air
- iPad 5th generation
- iPad mini 4
- iPad mini 3
- iPad mini 2

iPod

- iPod touch 6th generation

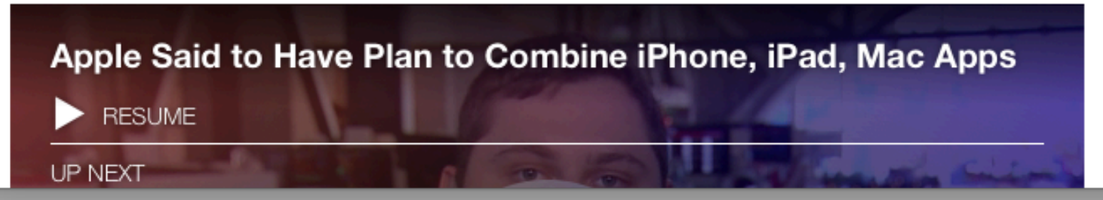

Device
Orientation

Apple Plans Combined iPhone, iPad & Mac Apps to Create One User Experience

By **Mark Gurman**

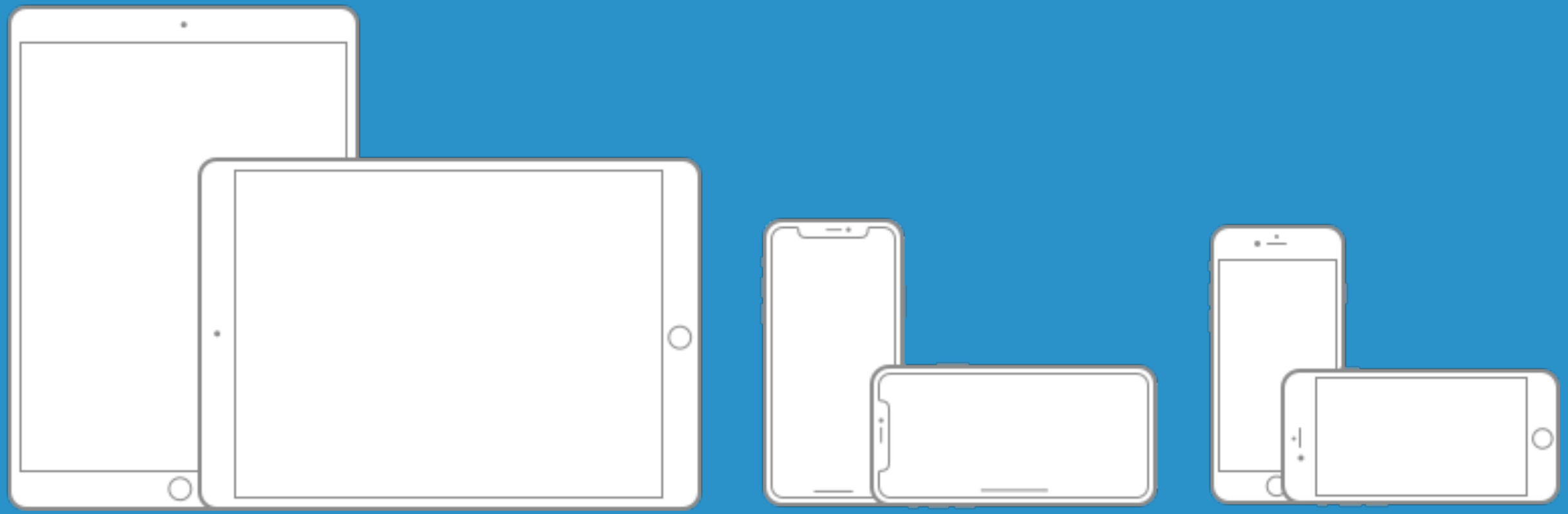
December 20, 2017, 3:30 PM GMT+1 *Updated on* December 20, 2017, 6:13 PM GMT+1

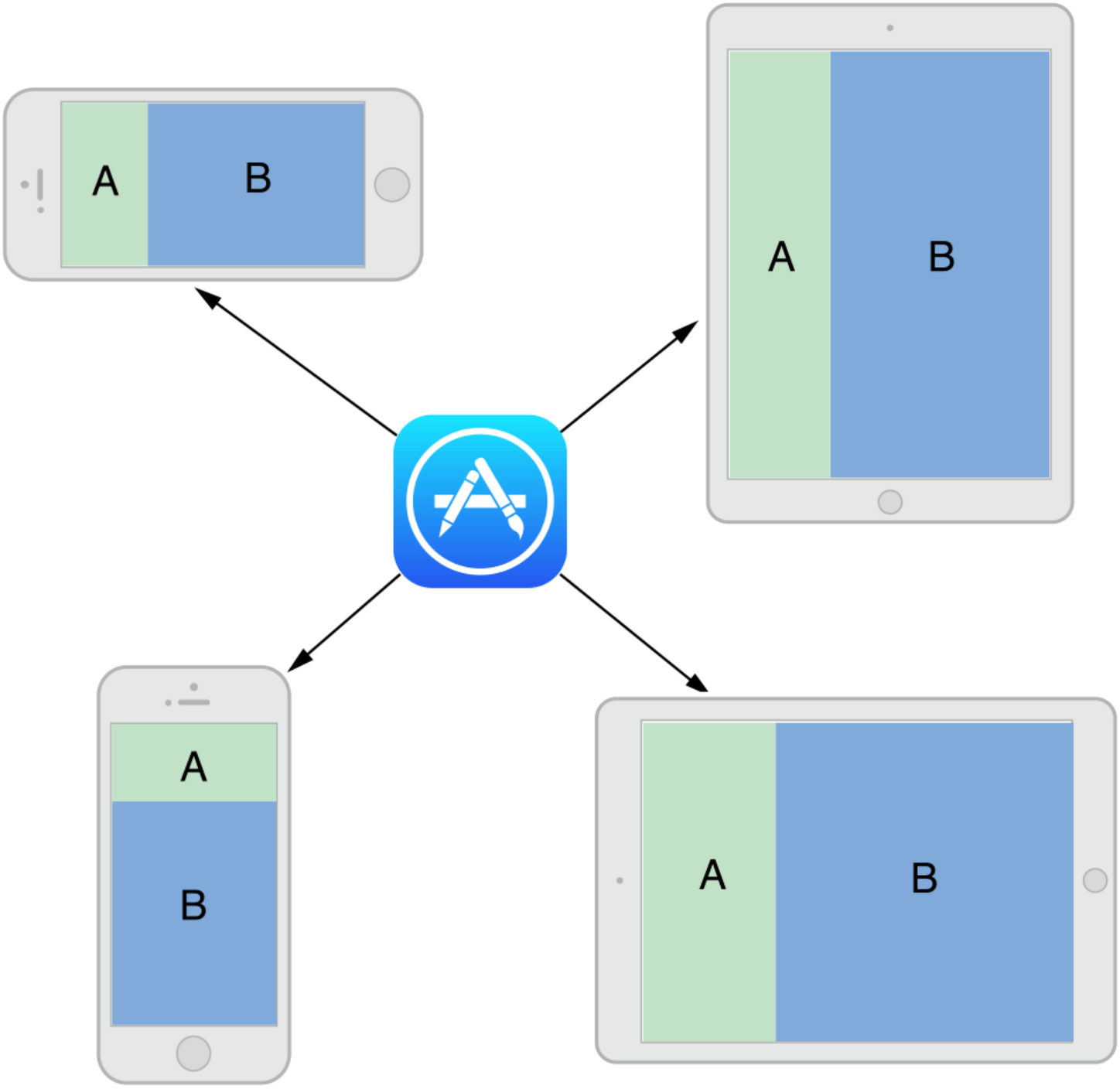
- Aim is to let developers expand iOS apps to Mac computers
- Apple customers have complained some Mac apps get short shrift




Finder
File
Edit
View
Go
Window
Help
FAVORITES
AirDrop
iCloud Drive
Applications
Aurelien
Pictures
DEVICES
Macbook Pro
Hard Drive
Aurelien
Documents
Applications
Design
Downloads
Photo-2017
Photo-2017
Case study
Case studies are a great way to tell the world how valuable your products or services are for ...
User reviews
A user review is a review conducted by a computer user and published to a review ...
User testing
34
21
Open
Open With
Move to Trash
Get Info
Rename
Duplicate
Make Alias
Share
Copy "macOS UI Kit"
Tags
MacBook Pro

Size classes allows us to adapt the interface, not only to screen sizes, but to different devices.




A
B
A
B
A
B
A
B
A
B

Traits:

- horizontalSizeClass
- verticalSizeClass
- displayScale
- displayGamut
- forceTouchCapability
- preferredContentSizeCategory
- userInterfaceIdiom

Use these traits to customize your layout.

Traits:

- All these properties are defined in `UITraitCollection`.

Traits:

— **The `traitCollection` can be accessed on any class that conforms to:**

```
@protocol UITraitEnvironment <NSObject>

@property UITraitCollection *traitCollection;

- (void)traitCollectionDidChange:(UITraitCollection *)previousTraitCollection;

@end
```

Traits:

All these classes conform to `UITraitEnvironment`

- `UIScreen`
- `UIWindow`
- `UIViewController`
- `UIPresentationController`
- `UIView`

Traits:

- The traits should have a correct value when added to the view/viewController hierarchy, not at init time.
- You can override them using `setOverrideTraitCollection:forChildViewController:`

Size Classes:

They are just one of the many traits available

Size Classes:

```
typedef NS_ENUM(NSInteger, UIUserInterfaceSizeClass) {
    UIUserInterfaceSizeClassUnspecified = 0,
    UIUserInterfaceSizeClassCompact     = 1,
    UIUserInterfaceSizeClassRegular     = 2,
} NS_ENUM_AVAILABLE_IOS(8_0);
```

Some recomendations:

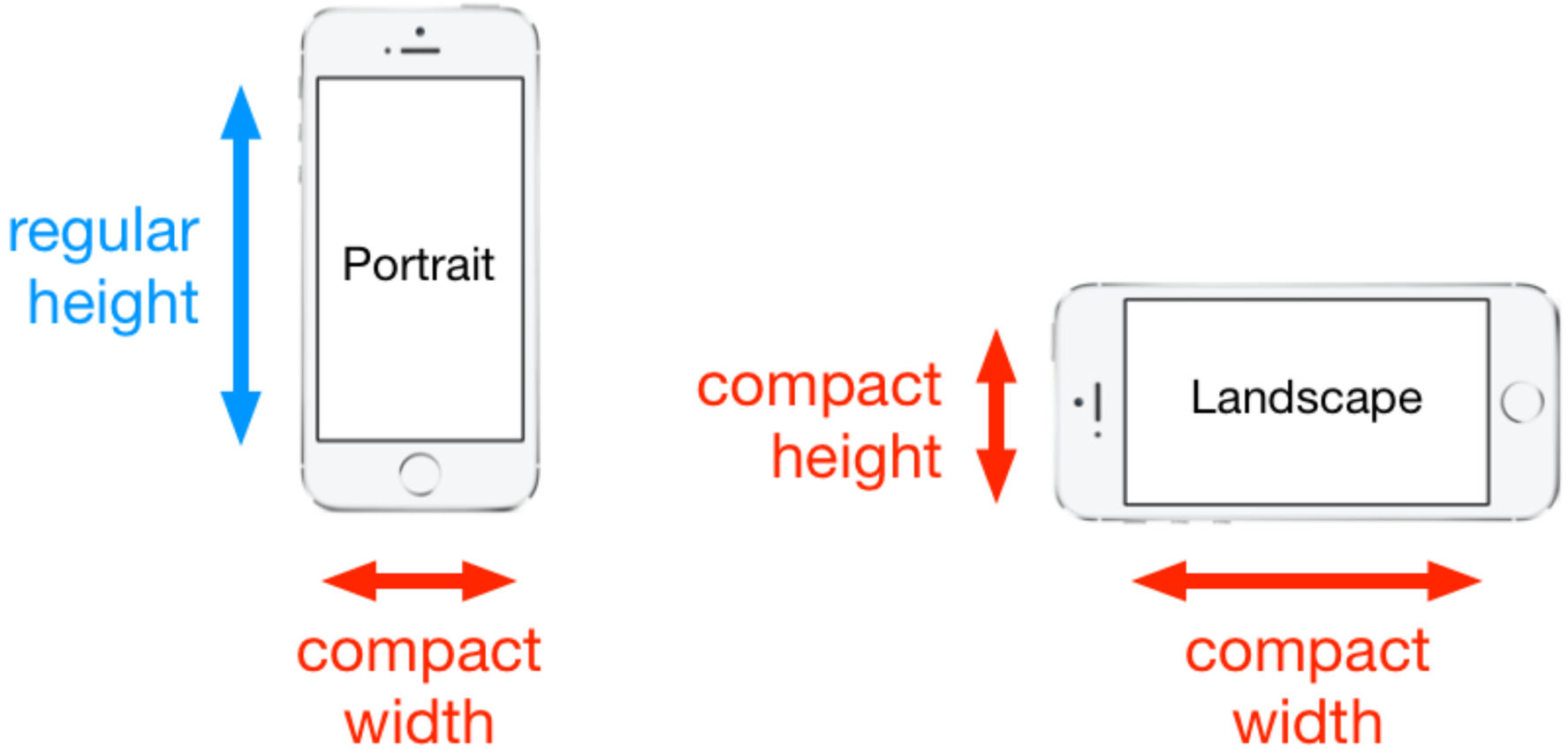
Never assume that a size class corresponds to the specific width or height of a view.

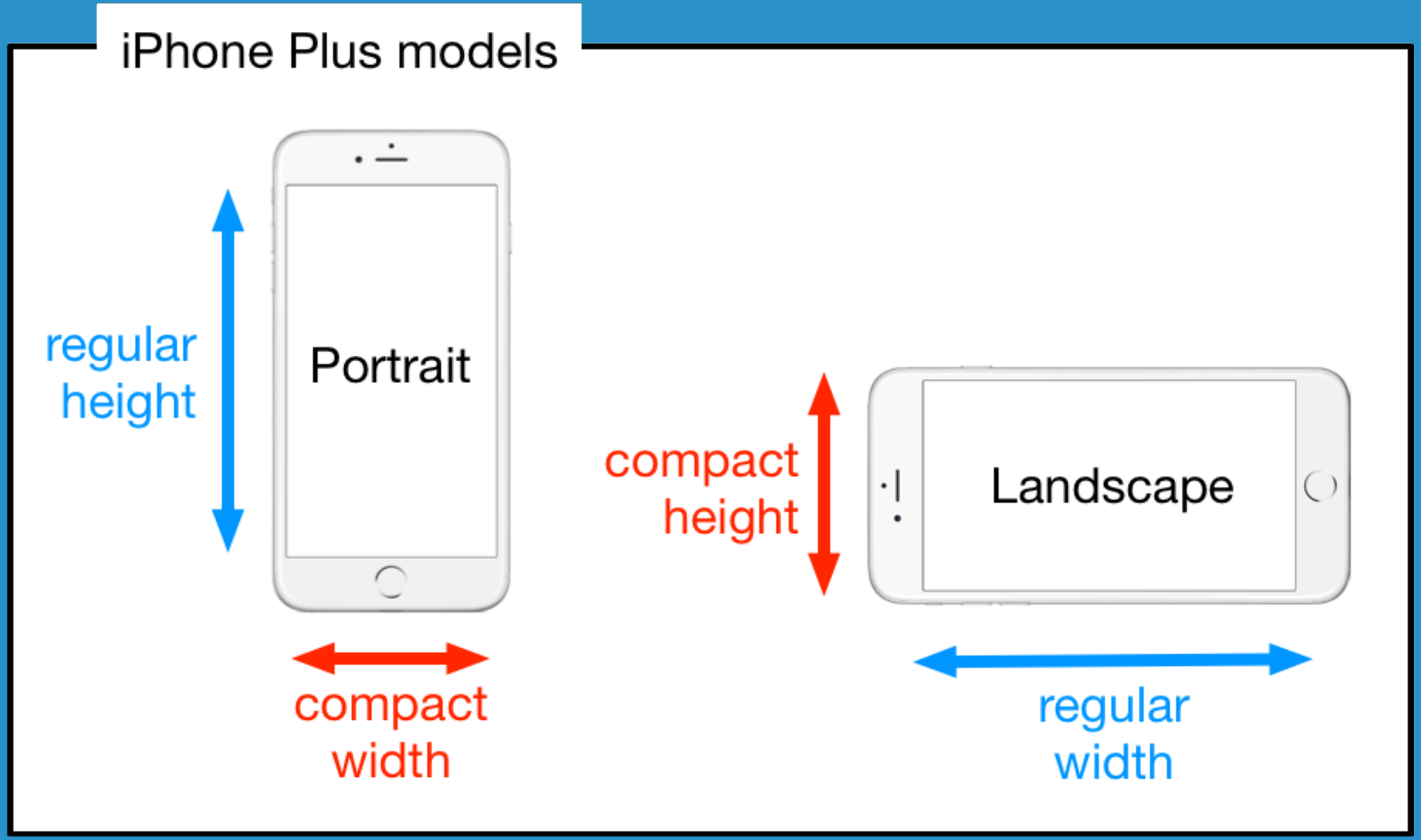
Avoid using idiom information to make decisions about the layout or content of your interface.

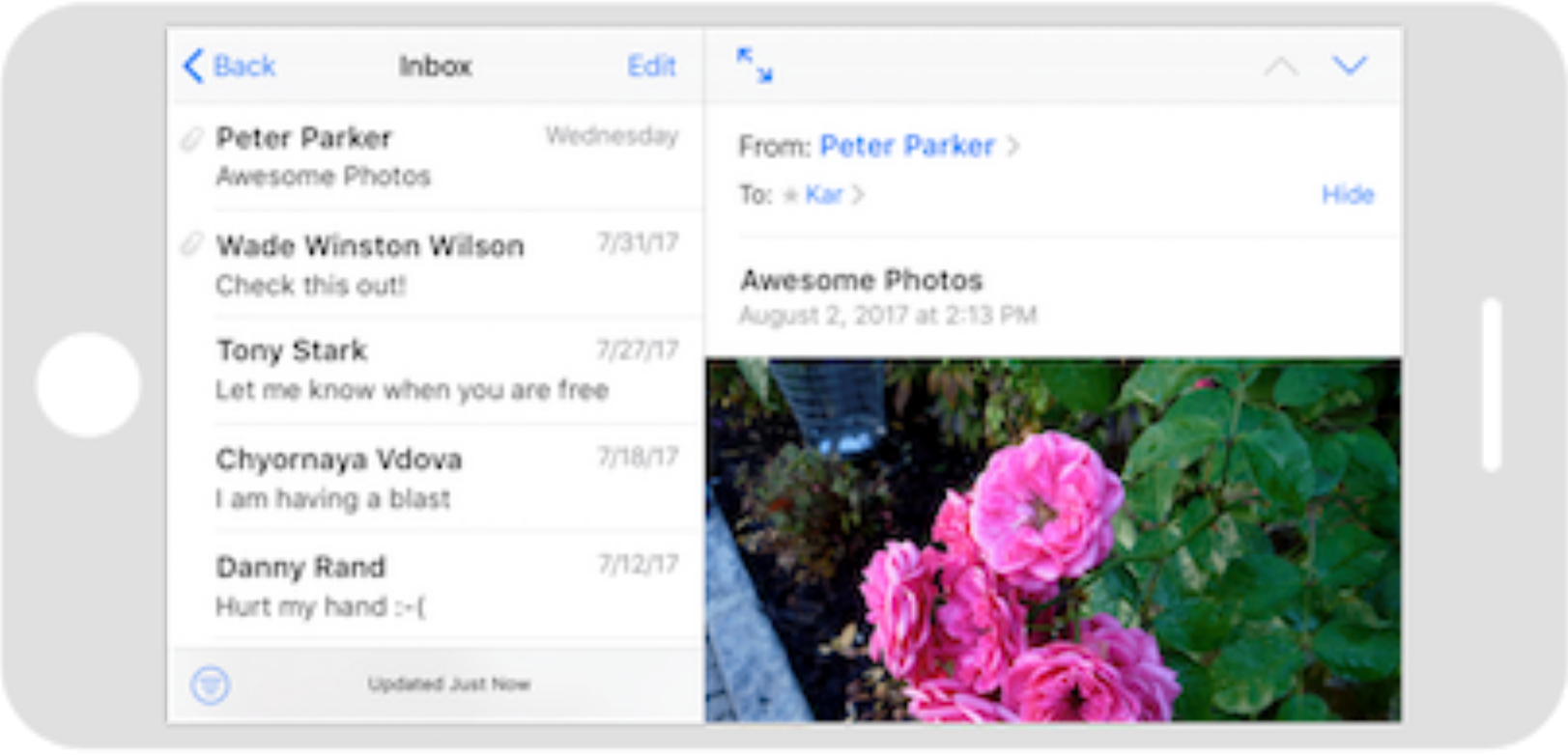
Be prepared for the unspecified value.

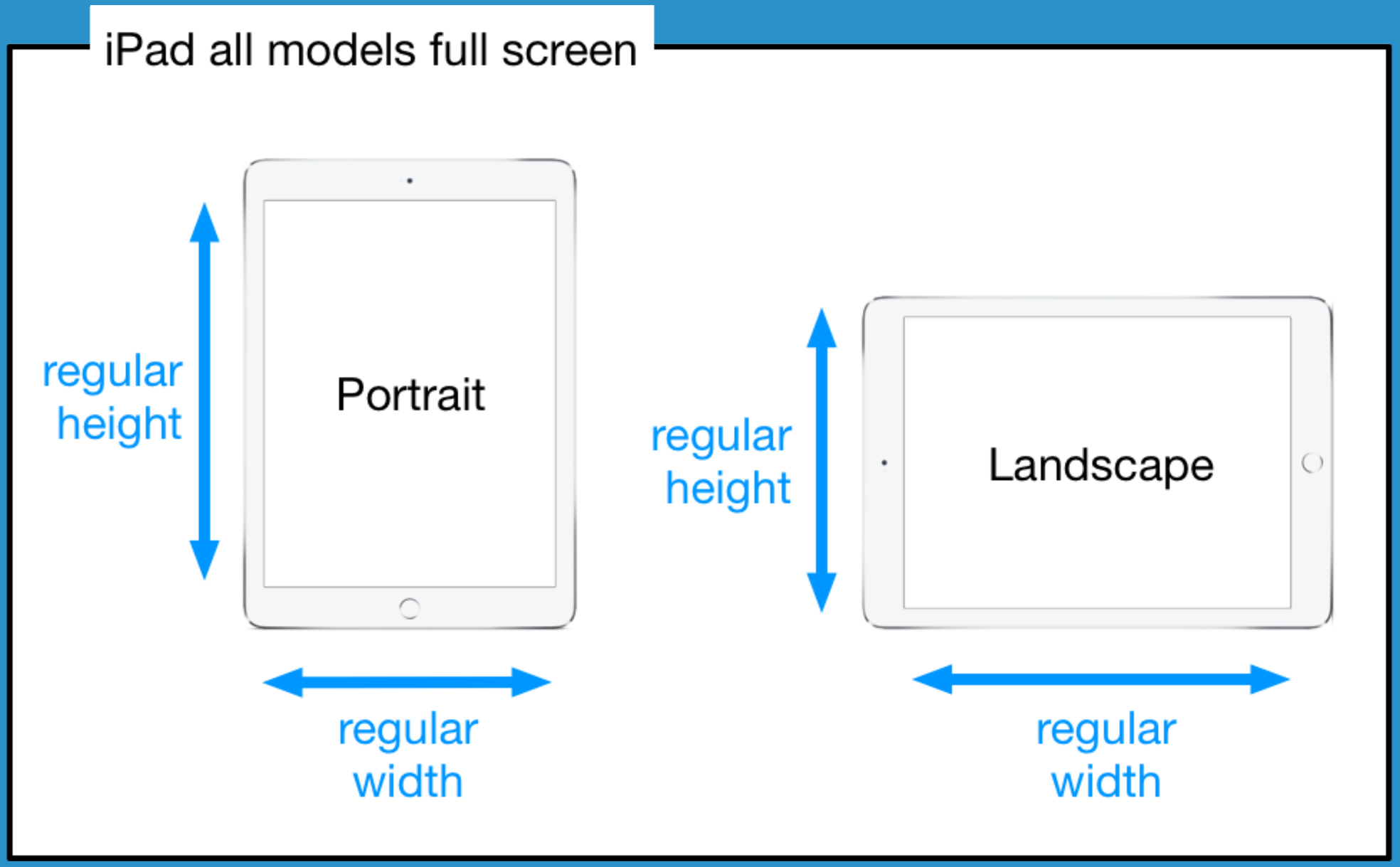
Override the traits if you want a different layout than what is provided by the system.

All other iPhone models




iPhone Plus models
regular
height
Portrait
compact
width
compact
height
Landscape
regular
width


Back
Inbox
Edit
Peter Parker
Wednesday
Awesome Photos
Wade Winston Wilson
7/31/17
Check this out!
Tony Stark
7/27/17
Let me know when you are free
Chyornaya Vdova
7/18/17
I am having a blast
Danny Rand
7/12/17
Hurt my hand :-(
Updated Just Now
From: Peter Parker
To: Kar
Hide
Awesome Photos
August 2, 2017 at 2:13 PM

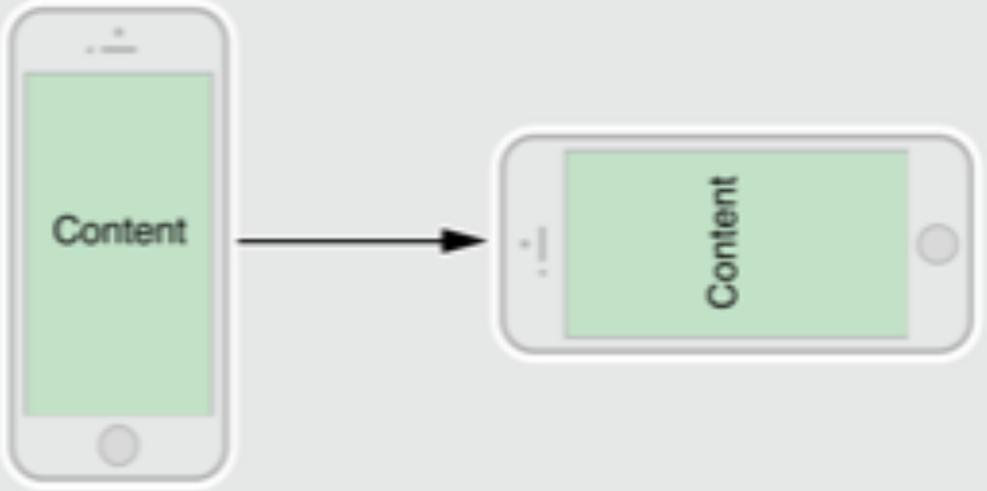

iPad all models full screen
regular
height
Portrait
regular
width
regular
height
Landscape
regular
width

Adapting to change

Changes to trait collection can happen because:

- Was overriden by parent viewController
- Rotation
- Multitasking

1) User rotates device



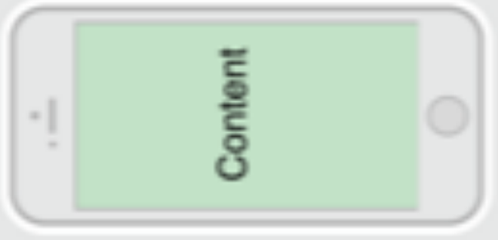
Current Size Classes

h: Compact
v: Regular

Current View Size

w: 320
h: 568

2) `willTransitionToTraitCollection:`
`withTransitionCoordintator:`



(Proposed Size Class Change)
Vertical: Compact

Current Size Classes

h: Compact
v: Regular

Current View Size

w: 320
h: 568

3) `viewwillTransitionToSize: withTransitionCoordinator`

(Proposed View Size Change)

w: 568
h: 320

Current Size Classes

h: Compact
v: Regular

Current View Size

w: 320
h: 568

4) Animate Changes and update layout

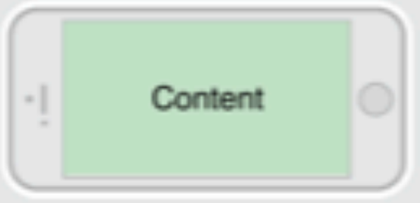
Current Size Classes

h: Compact
v: Compact

Current View Size

w: 568
h: 320

5) `traitCollectionDidChange:`



(Previous Size Class)
Vertical: Regular

Current Size Classes

h: Compact
v: Compact

Current View Size

w: 568
h: 320

Demo

ViewController Presentation

Navigation

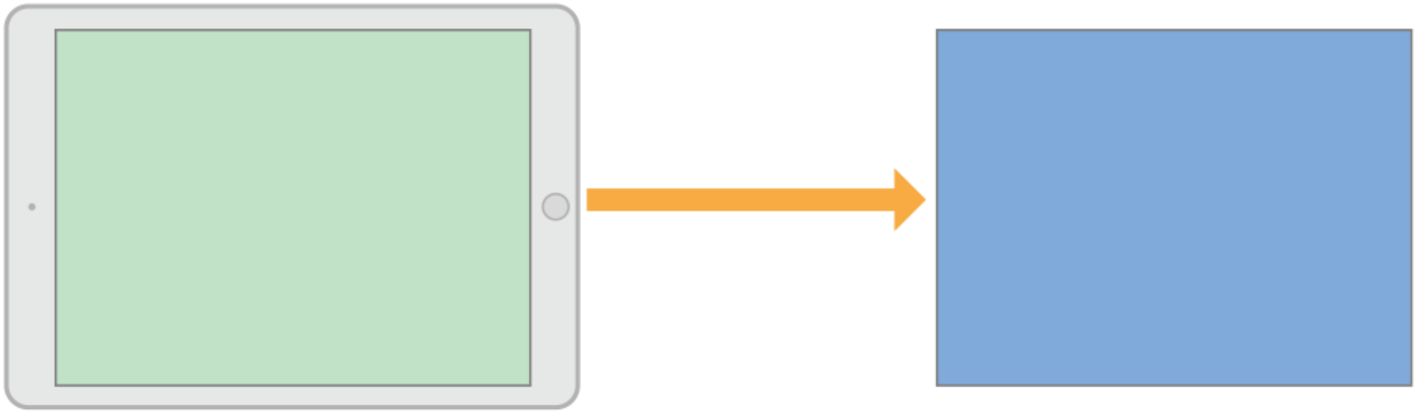
- **Don't explicitly use `UINavigationController`'s methods.** [1]
  - **Instead use `showViewController:sender:` and `showDetailViewController:sender:`**
  - **These allow customization of the presentation for a given context overriding `targetViewControllerForAction:sender:`**

[1] targetViewControllerForAction:sender: is smarter than it seems

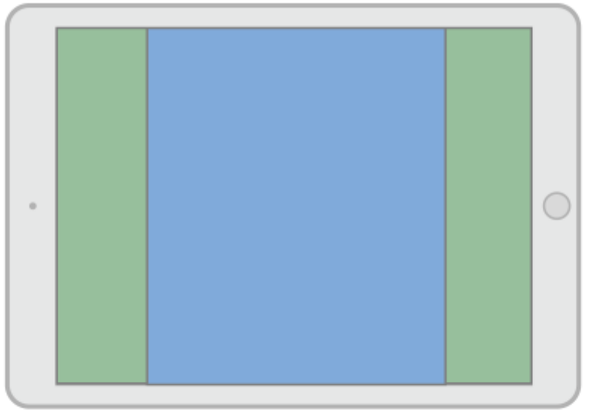
Navigation

- **Adopt `UISplitViewController` when appropiate.**
  - **Allows better integration when shown on `.regular` horizontal size classes.**

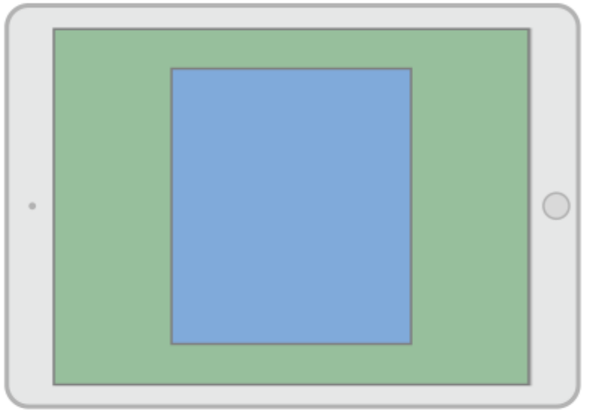
Presentation



UIModalPresentationFullscreen

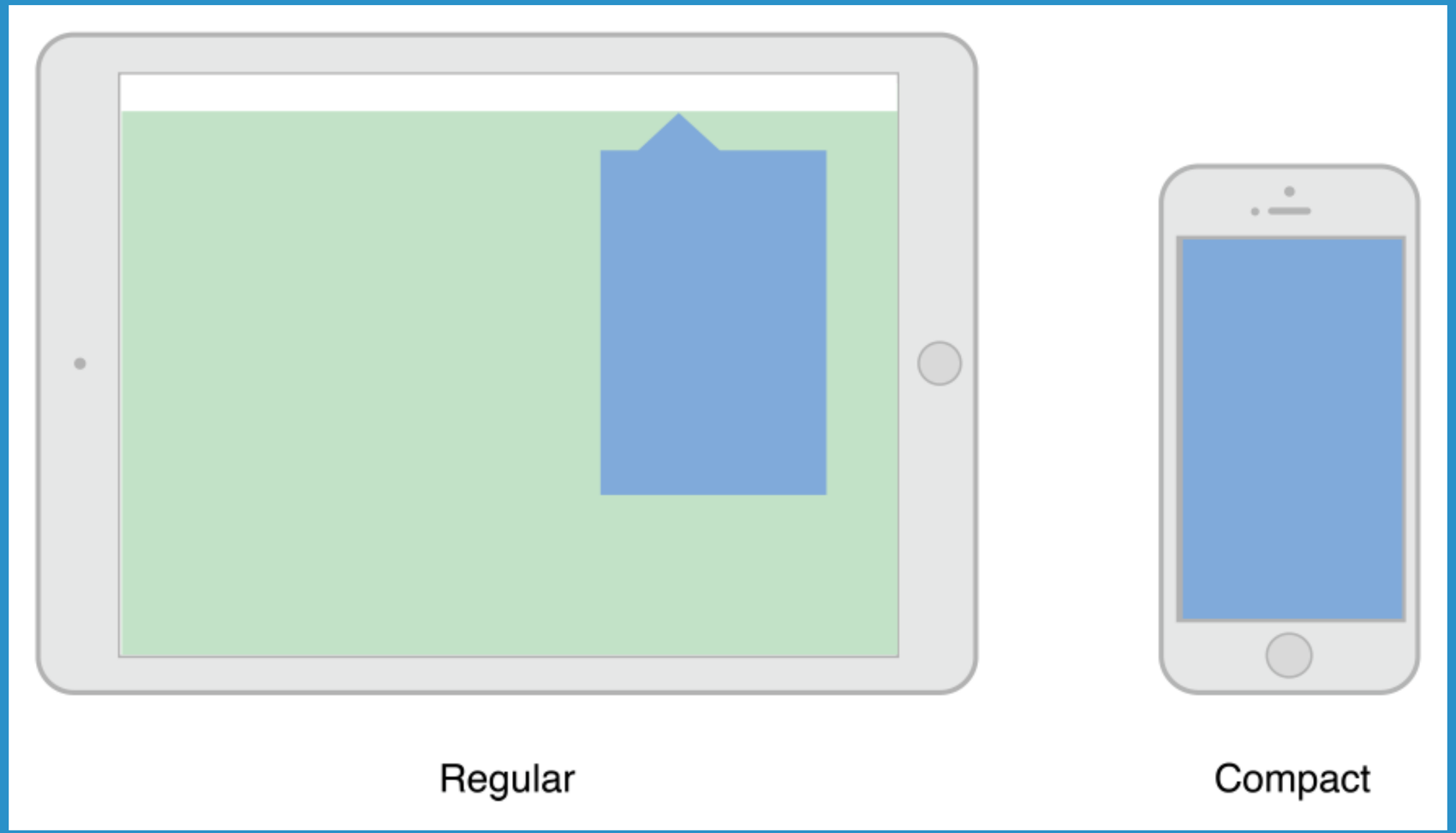


UIModalPresentationPageSheet



UIModalPresentationFormSheet

Popovers



Popovers

- **Use** `UIModalPresentationPopover`
- **Customize through** `UIPopoverPresentationController`
  - **Origin of the popover**
  - `preferredContentSize`
  - **Margins**

Recomendations:

Work closely with your designer

Think in terms of proportions, not pixels/points

It's easier to test transitions on device