张靖元 Jingyuan “Knight” Zhang

Mobile Designer & Developer

CocoaHeads Shanghai 2017-04-27

Profile

Portfolio

Who am I ?

- 张靖元 Jingyuan “Knight” Zhang
- Fudan University Shanghai Institute of Visual Art - Visual Communication Design
- Apple Retail - Creative trainer
- Full Sail University - Mobile Development
- Freelance Mobile Developer

“Simple techniques that make Xcode Storyboard more intuitive.”

CocoaHeads 2017-02-23

Recap Link

“Simple Techniques That Make Your User Interfaces More Flexible.”

Tonight

What to share tonight ?

- Make UI/UX flexible for different layout situations
- Strategies & tools
- How to get started
- Inspiration & comfort for creative UI/UX

Thanks for your support !

Thanks for your support !

Antoine
Cœur

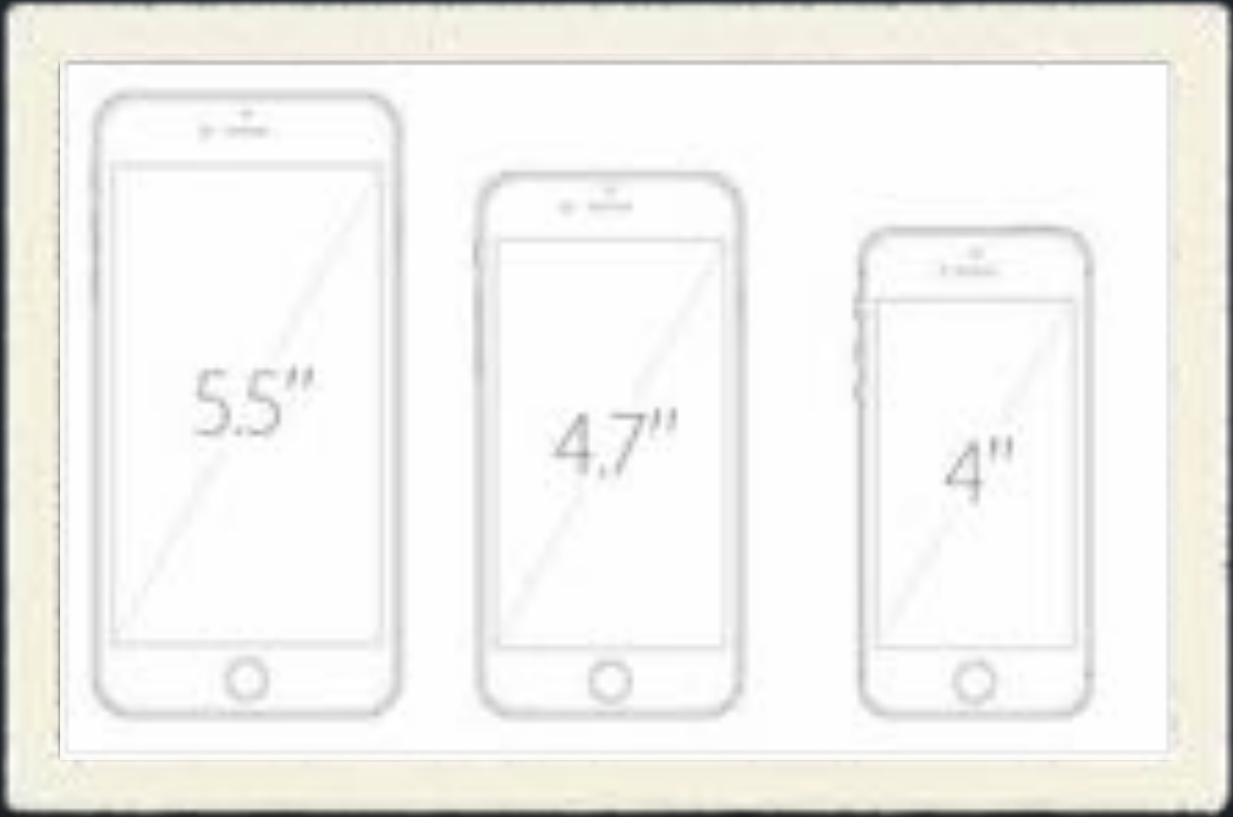
Guanshan
Liu

“Why to make the app’s UI/UX flexible for different layout situations?”

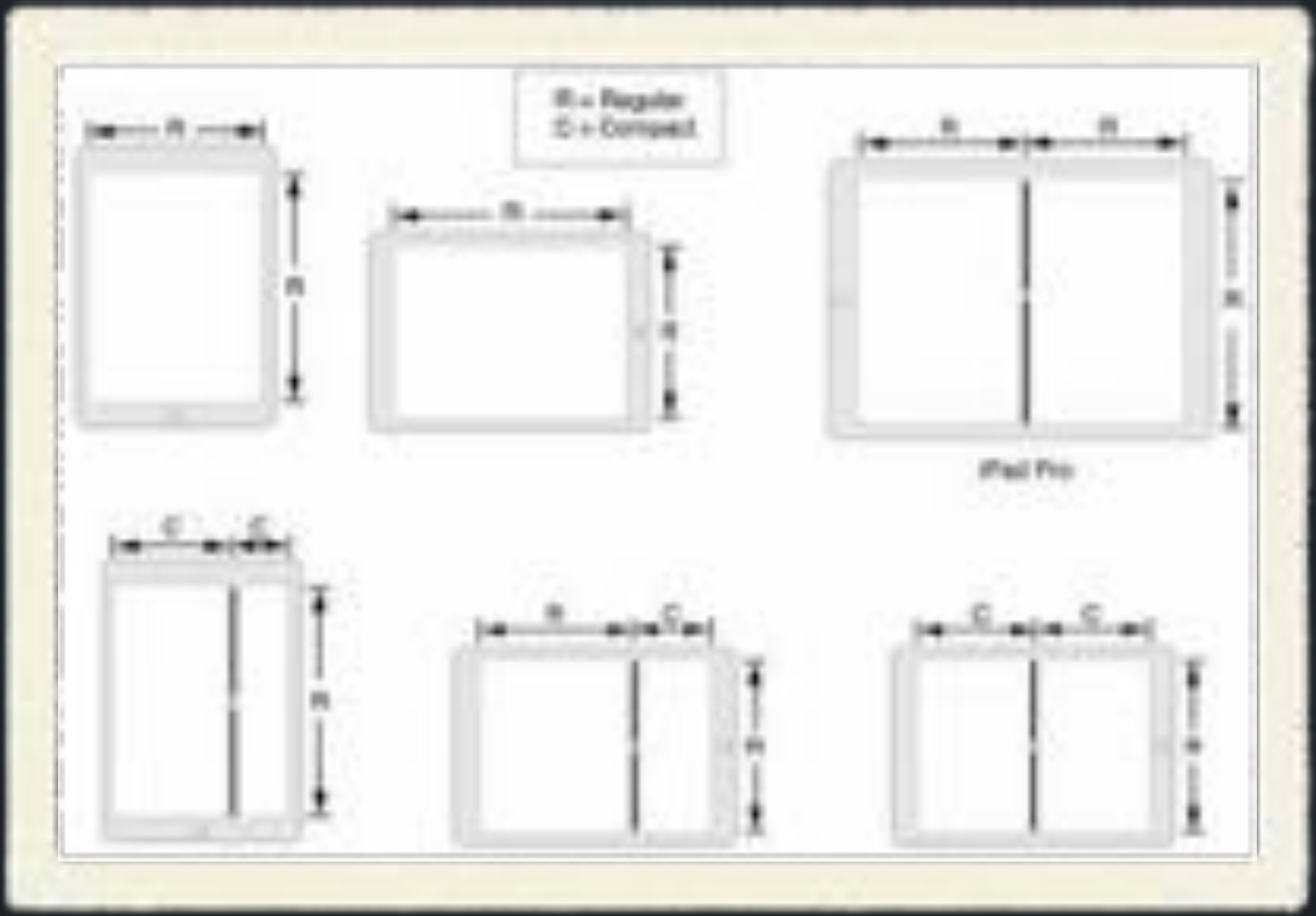
Why to make the app's UI/UX flexible for different layout situations?

- Expected UI/UX on multiple screen-sized devices
- Efficient development
- Easy to scale & manage for the future

Expected UI/UX on multiple screen-sized devices



Source: Everythingicafe



Source: Apple

Efficient development

- More Intuitive, Less Code

Easy to scale & manage for the future

- Less Revision, Faster Update

How to make the UI/UX development so flexible?

How to make the UI/UX development so flexible?

- Use Xcode Interface Builder

What do we use ?

Auto-layout | **StackView** | **Adaptive Layout (Size-Class-Specific Layout)**

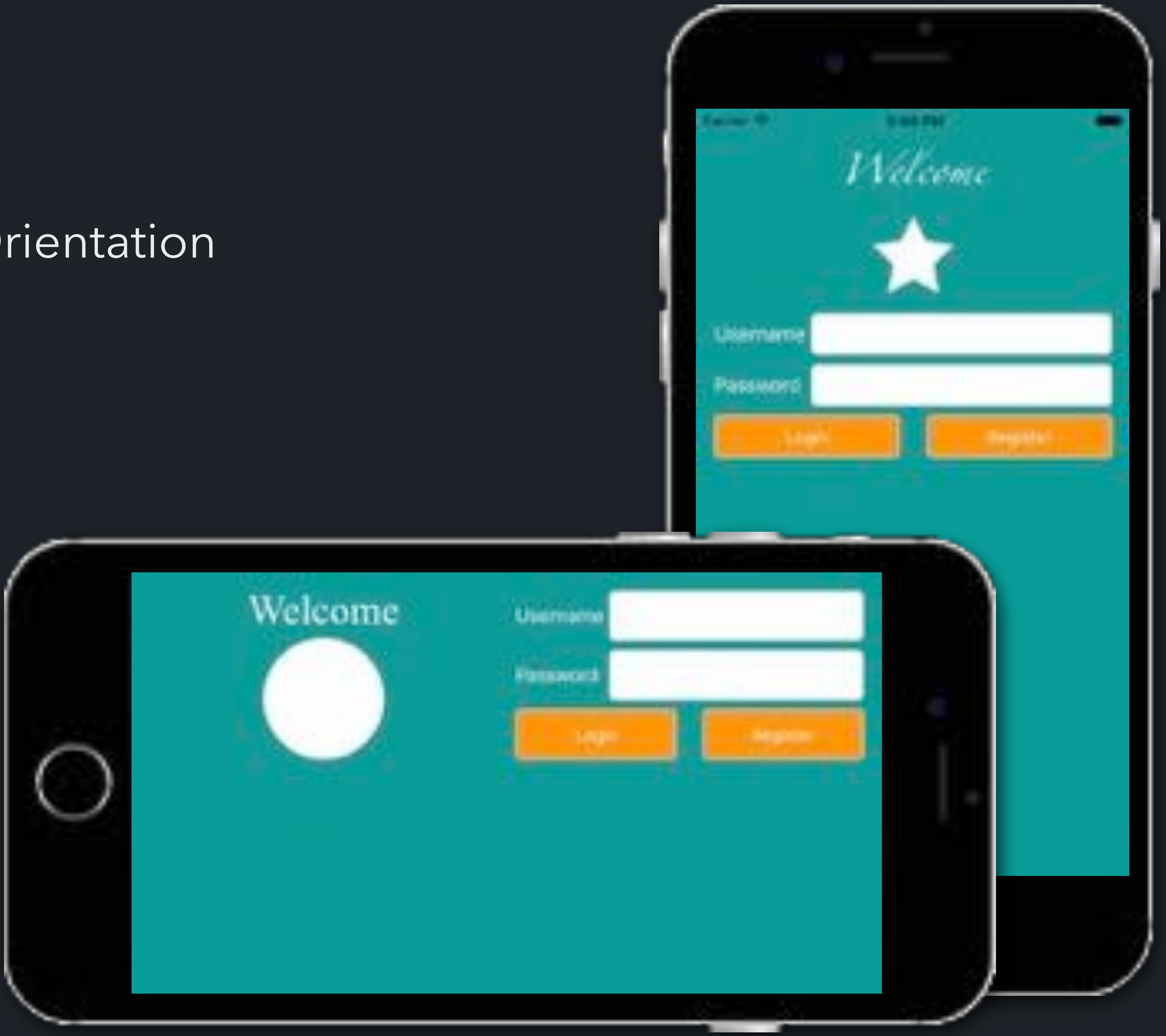
“Auto Layout dynamically calculates the size and position of all the views in your view hierarchy, based on constraints placed on those views.” – Apple

“Stack views are a powerful tool for quickly and easily designing your user interfaces. Their attributes allow a high degree of control over how they lay out their arranged views.” – Apple

“Size classes … provide a rough indication of the element’s size. Interface Builder lets you customize many of your layout’s features based on the current size class.” – Apple

A simple challenge

- Generic login view
- Different Layout each Orientation
- 3 Labels
- 2 Text Views
- 1 Image View
- 2 Button



A simple challenge of Generic Login View

- **StackView**
  - Alignment
  - Distribution
  - Spacing

- **Adaptive Layout**
  - Set attributes based on the “Size-class”
  - Set constraint by “Varying for Size-class Traits”
  - Set image based on the “Size-class” in Xcode Assets.

Start from the basic

- Putting Items on the Canvas
- Set the color
- Set custom class if needed

StackView

- **"WelcomeStack"**
  - Welcome Label
  - ImageView

StackView

- **“InputStackCell”**
  - Label & TextView
  - Buttons

StackView

- **“InputStack”**
    - 3 sets of “InputStackCell”

StackView

- **“MasterStack”**
  - “WelcomeStack”
  - “InputStack”

Auto-layout

- **Non-ambiguous & Satisfiable**
  - Width and Height
  - Horizontal and Vertical Position

Auto-layout

- **Pin panel**

Auto-layout

- **Pin panel**
  - “Constrain to margins”

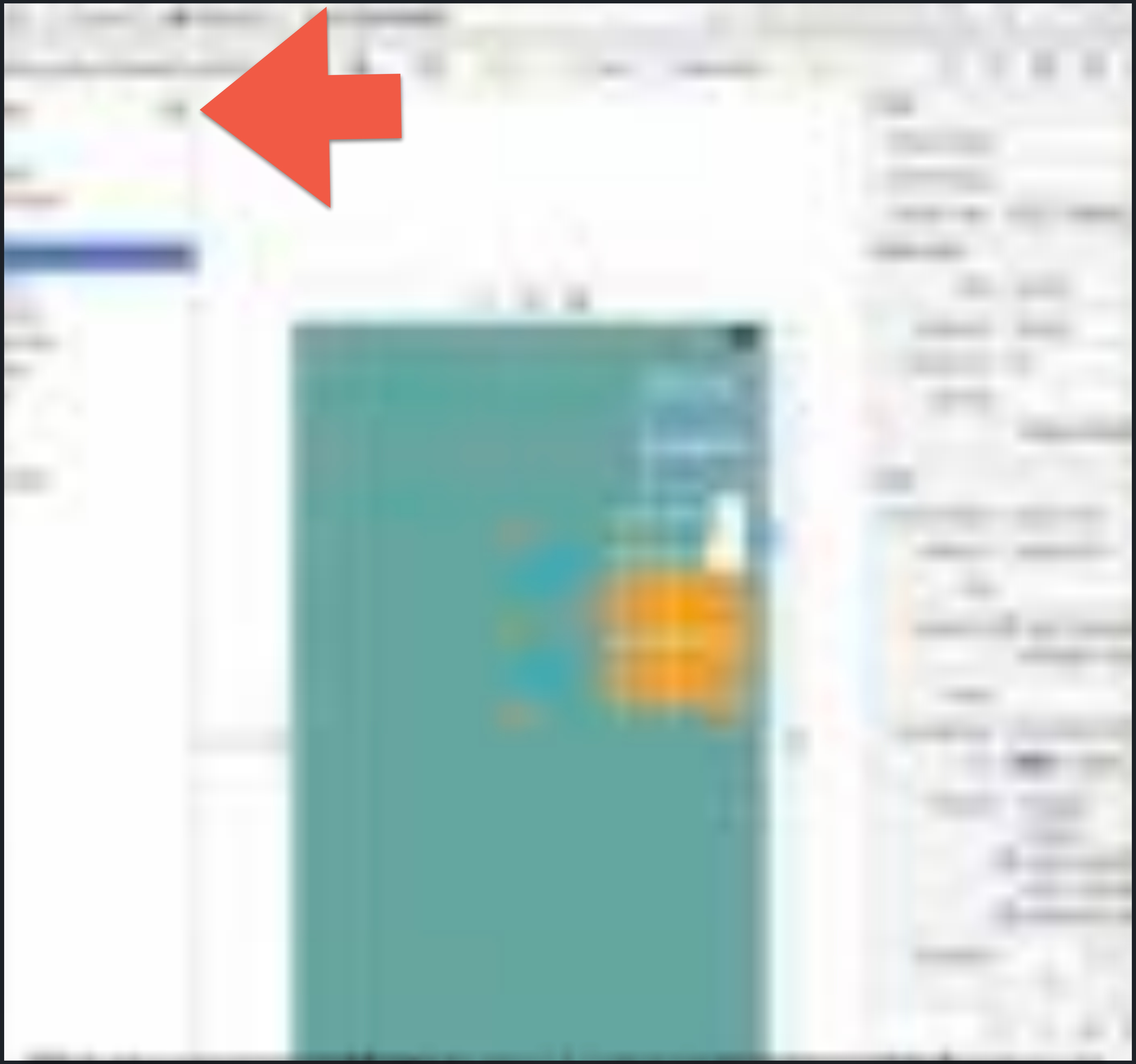
Auto-layout

- **Equal Heights**
    - “MasterStack”
    - BackgroundView

Auto-layout

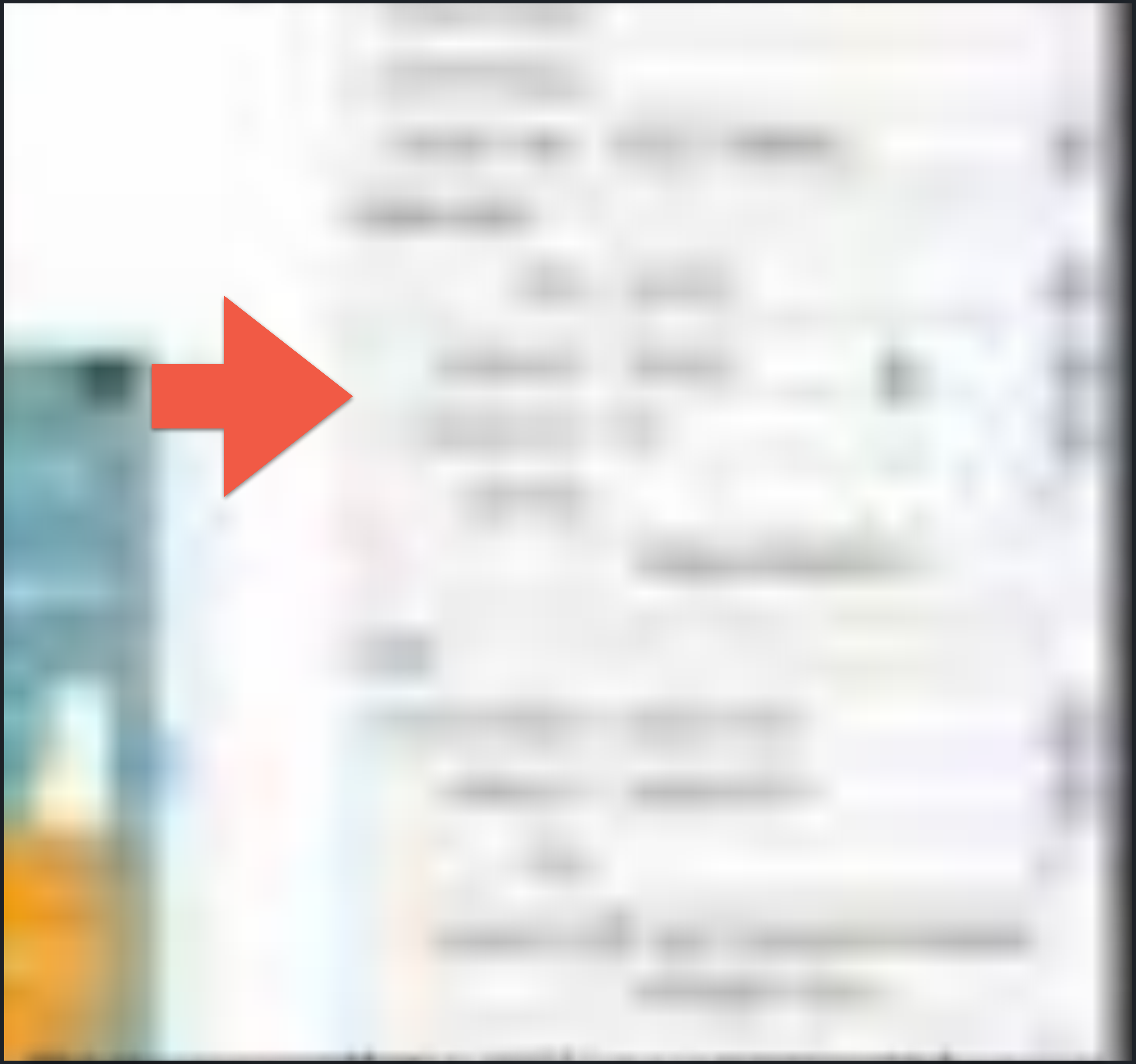
- **Proportional Height**
  - "MasterStack"
  - BackgroundView
  - Multiplier 2/5

StackView



- **Unsatisfied yet**
    - Remove the “Red Warning”

StackView



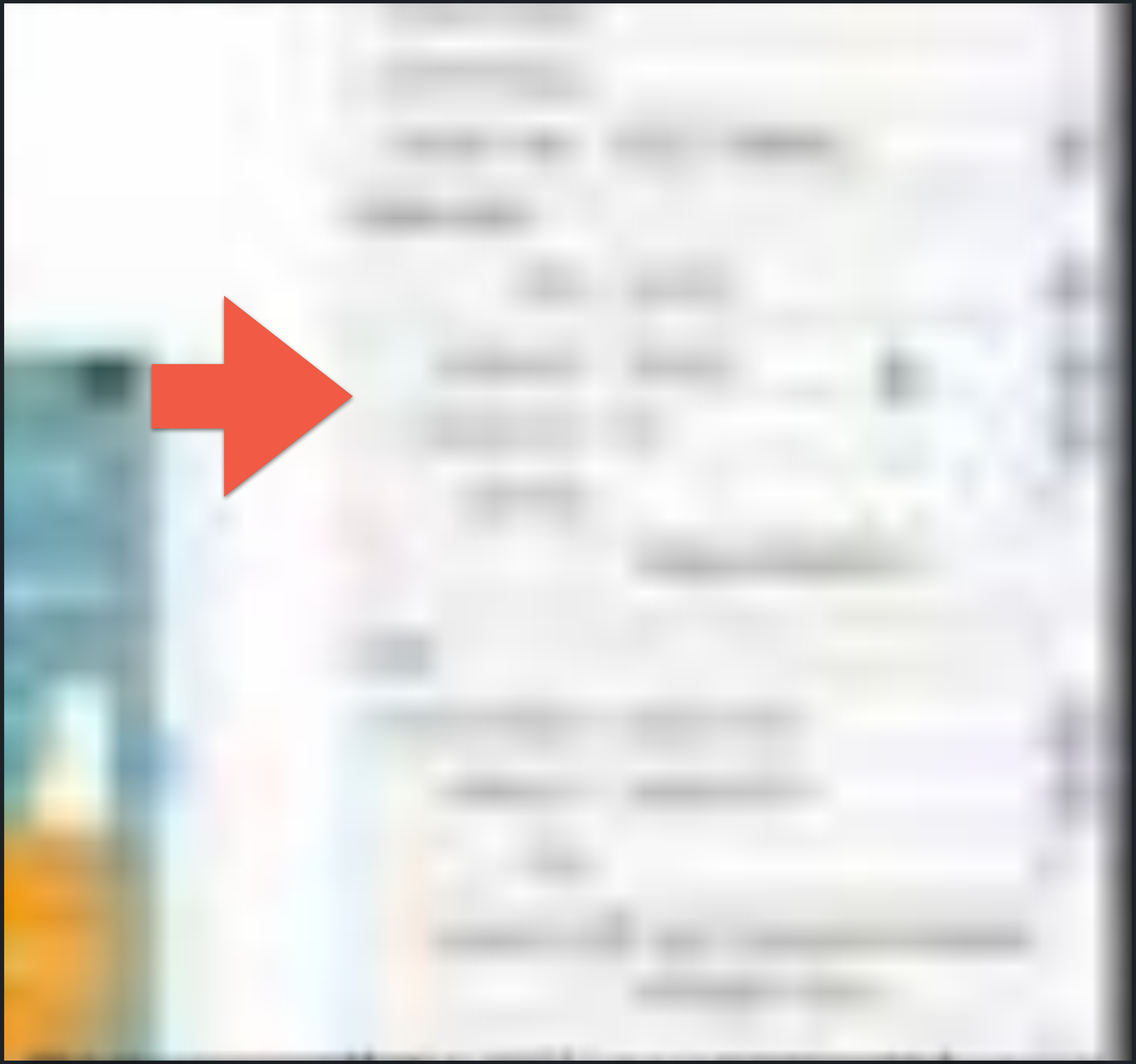
- **StackView Attributes**
  - Alignment
  - Distribution
  - Spacing

StackView

Video Demo

Count the time

StackView



- **StackView Attributes**
    - Alignment
    - Distribution
    - Spacing

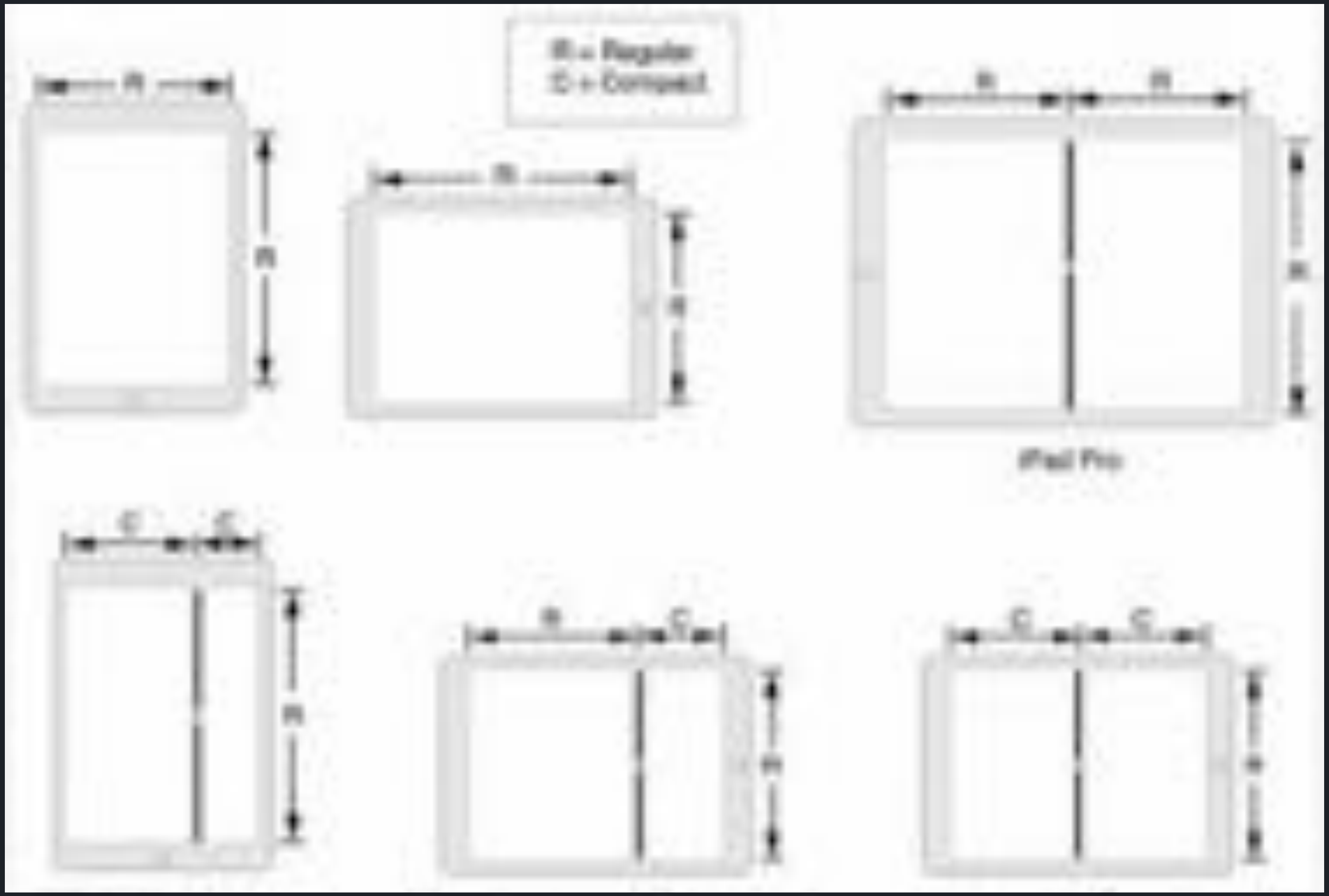
Adaptive Layout

- **Reposition**
  - “WelcomeStack”
  - “InputStack”

Adaptive Layout

- **Sizing Class**
    - Set attributes based on the "Size-class"

Sizing Class



- **Sizing Class**
  - Any
  - Regular
  - Compact

Example: iPad Sizing Class

Adaptive Layout

- **Sizing Class**
  - Add Variation

Adaptive Layout

- **Sizing Class**
    - Different attributes based on the "Size-class"

Adaptive Layout

- **Sizing Class**
  - Vary for Traits

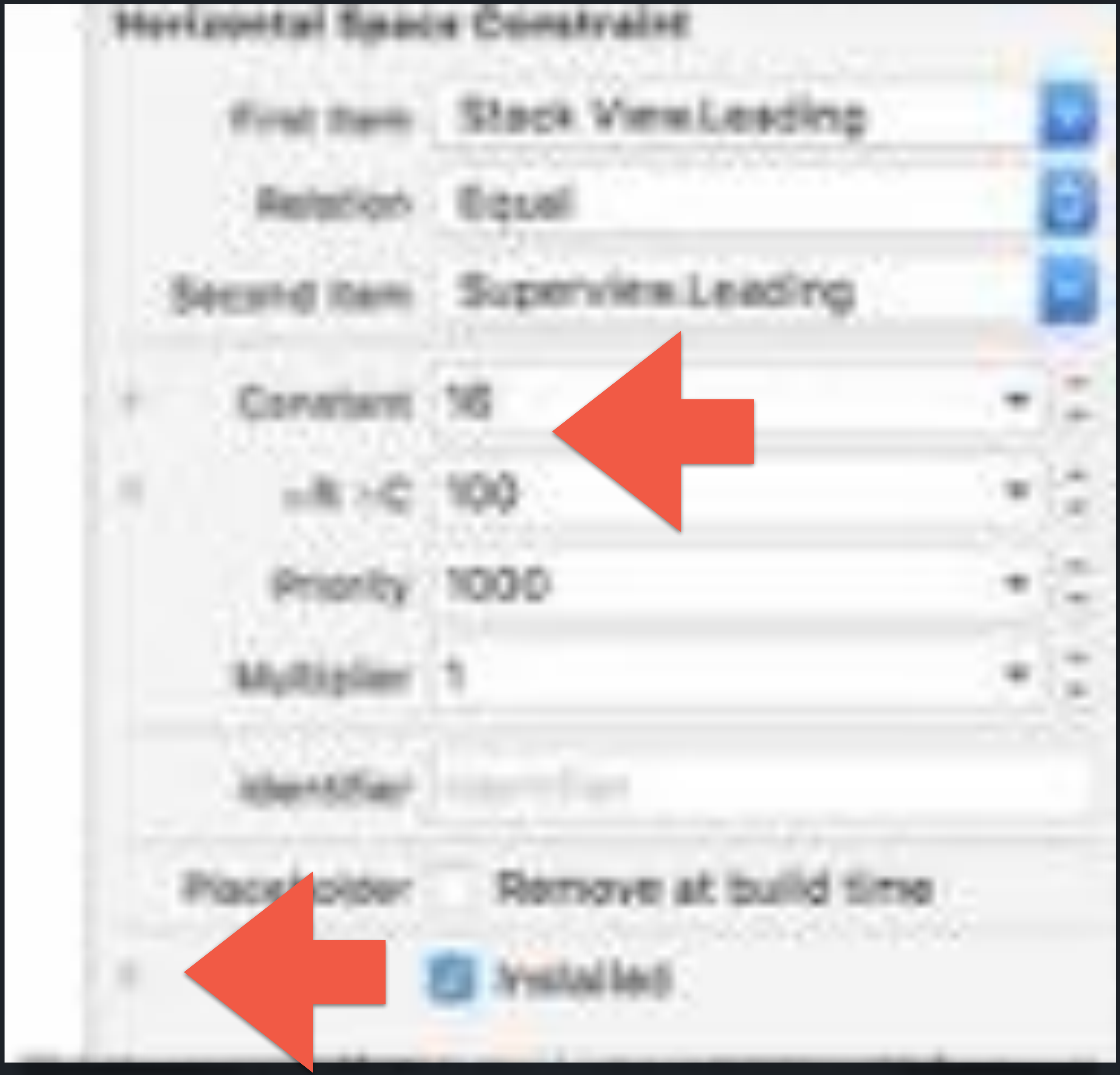
Adaptive Layout

- **Sizing Class**
  - Set constraint by "Varying for Size-class Traits"

Adaptive Layout

- **Sizing Class**
  - Set constraint by “Varying for Size-class Traits”

Adaptive Layout

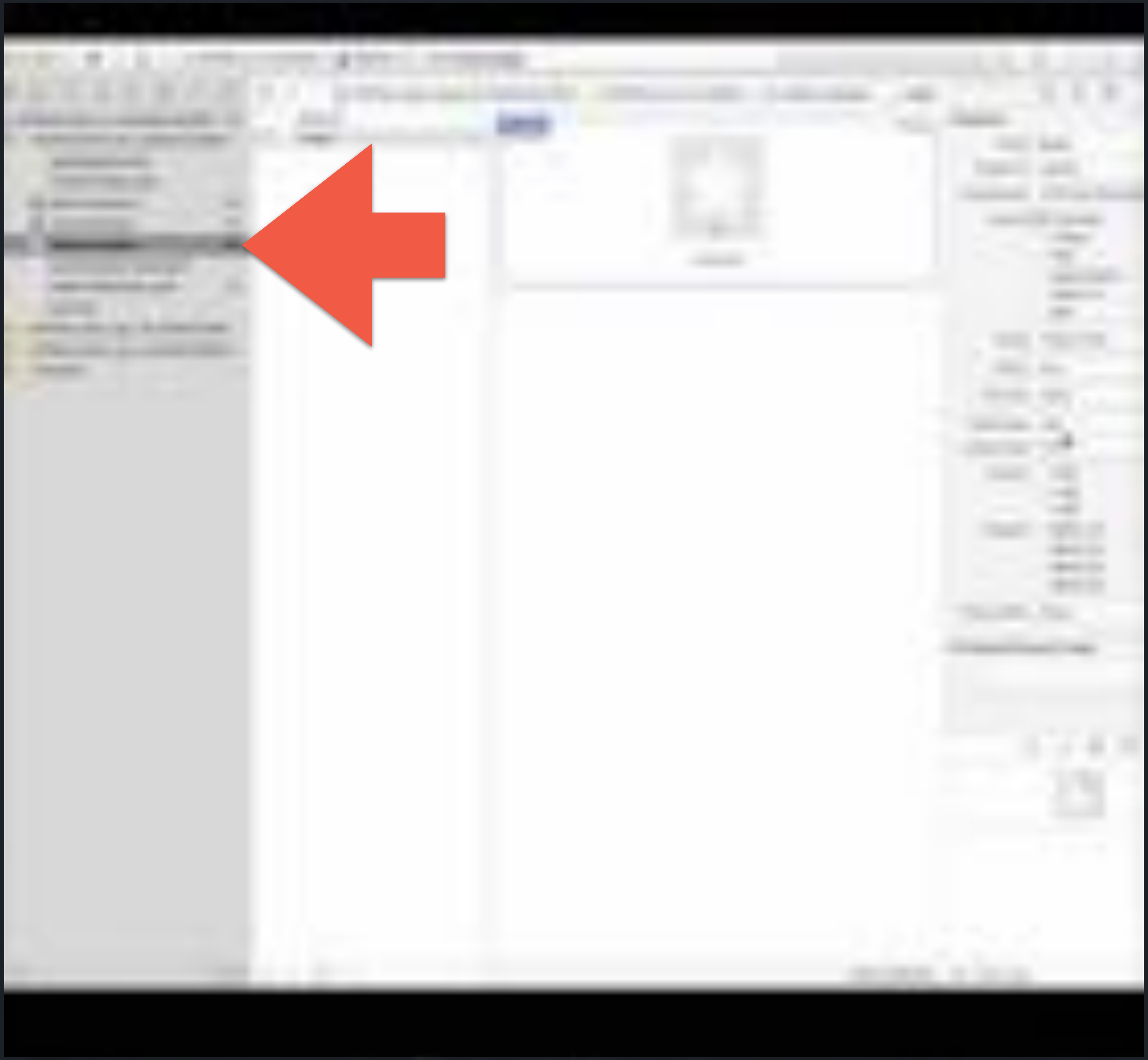


Horizontal Space Constraint

First Item	Stack View.Leading
Relation	Equal
Second Item	Superview.Leading
Constant	16
wR hC	100
Priority	1000
Multiplier	1
Identifier	Identifier
Placeholder	Remove at build time
	✓ Installed

- **Sizing Class**
  - Set constraint by "Varying for Size-class Traits"
  - Install constraint by "Varying for Size-class Traits"

Adaptive Layout



- **Sizing Class**
  - Set image based on the “Size-class” in Xcode Assets.

Adaptive Layout

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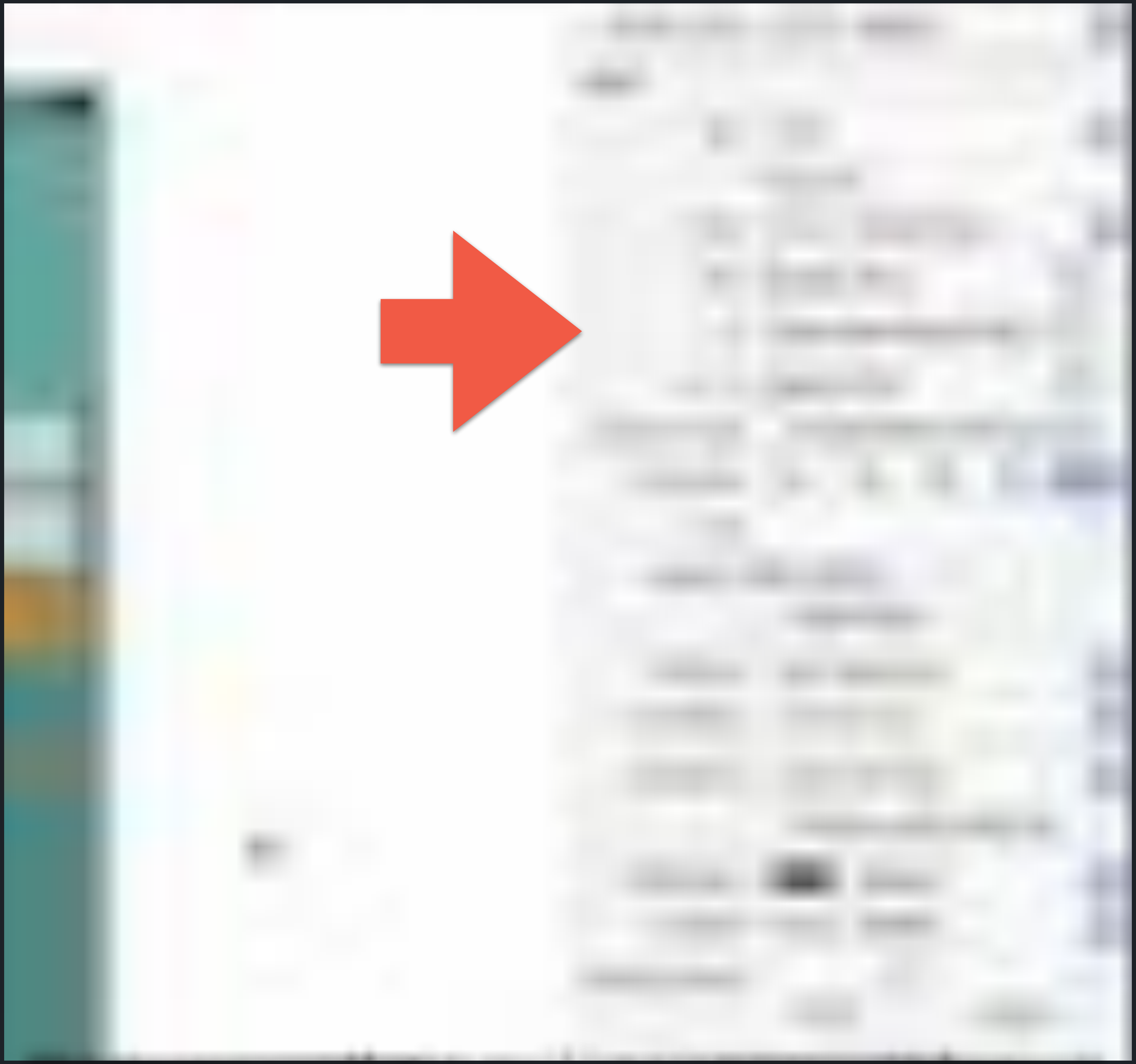
Adaptive Layout

- **Sizing Class**
  - Just set the image
  - Xcode Assets handle for you

Adaptive Layout

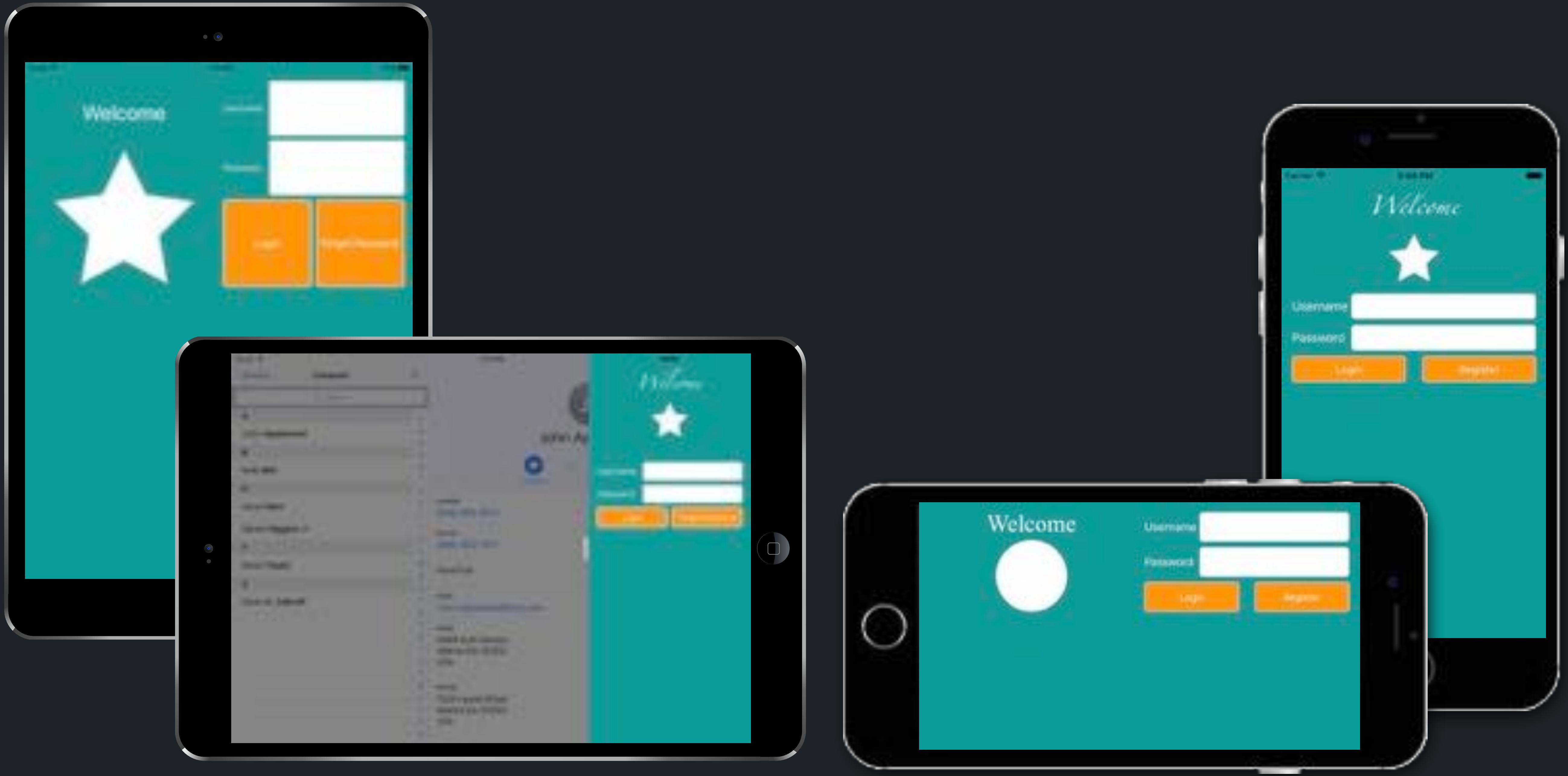
- **Sizing Class**
    - Just set the image
    - Xcode Assets handle for you

Adaptive Layout



- **Sizing Class**
  - Set attributes based on the "Size-class"
  - Be creative
  - Such fonts

Adaptive Layout



Summary

- **Auto-layout** - dynamically calculates the size and position of all the views

- **StackView** - Their attributes allow a high degree of control

- **Adaptive Layout** - customize many of your layout’s features based on the current size class

“Simple Techniques That Make Your User Interfaces More Flexible.”

Thank You

Useful Resources

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