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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

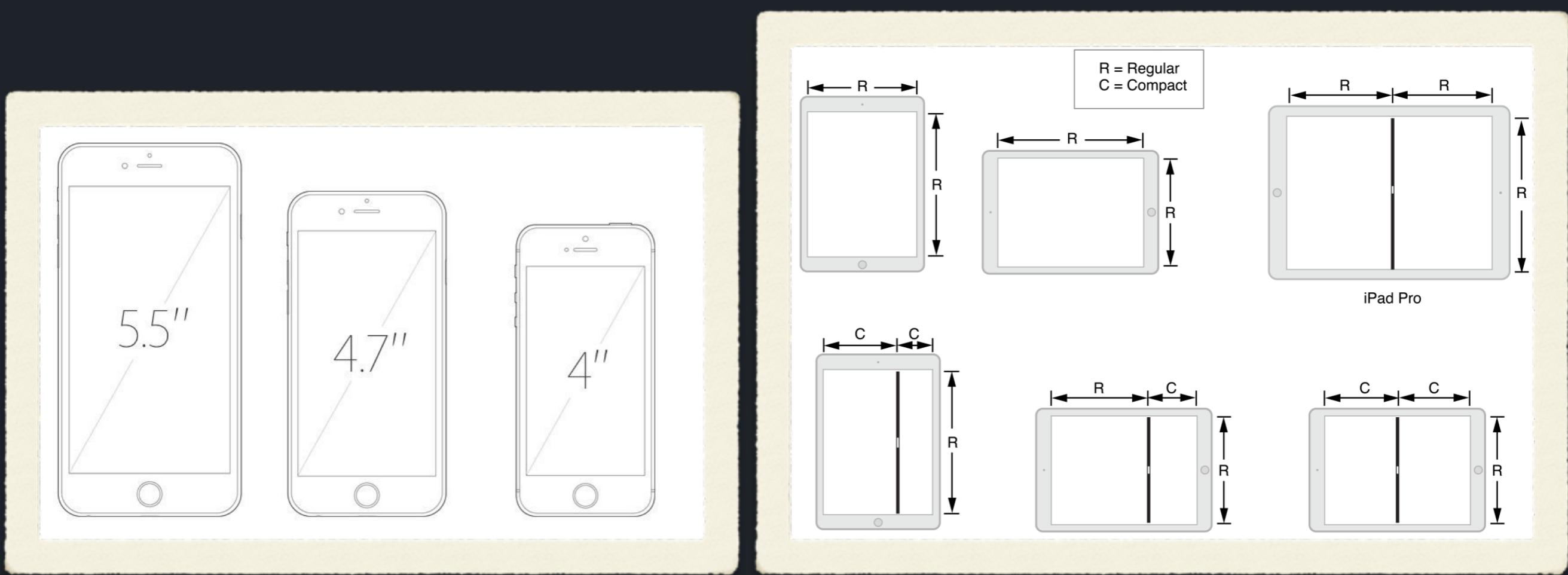
Guanshan
Liu

“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

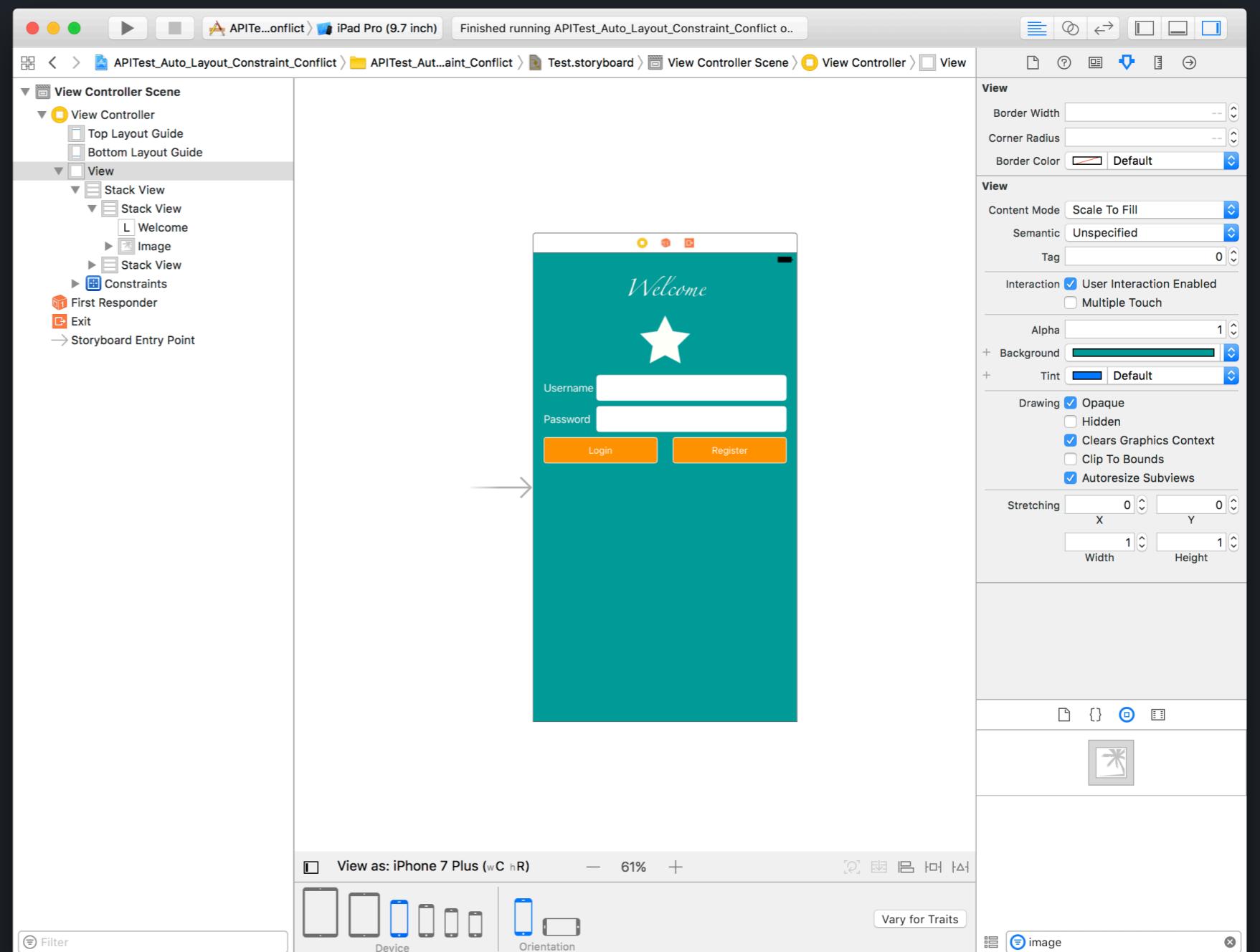
Easy to scale & manage for the future

- 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

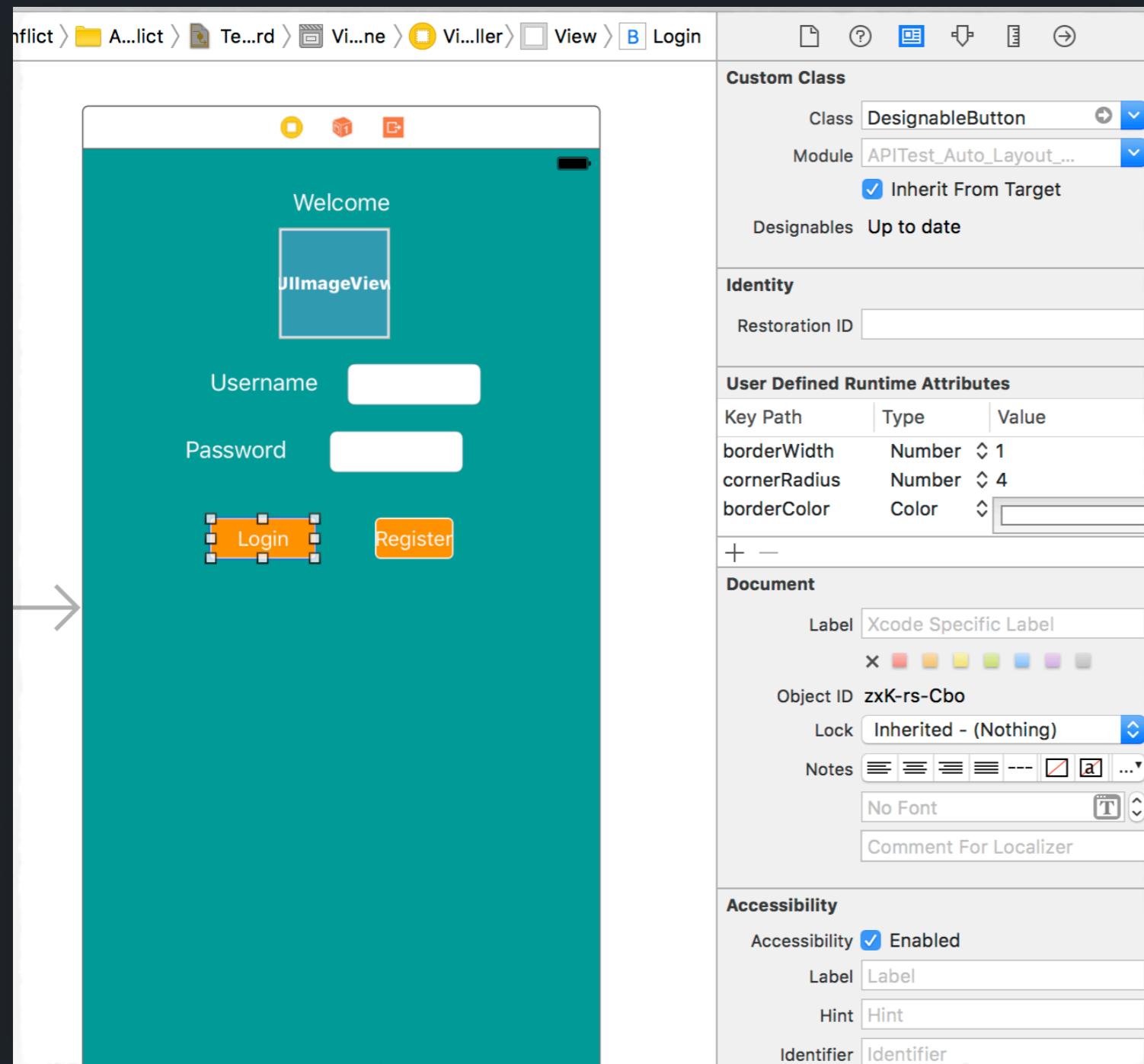
- Generic login view
- Different Layout each Orientation
- 3 Labels
- 2 Text Views
- 1 Image View
- 2 Button



A simple challenge of Generic Login View

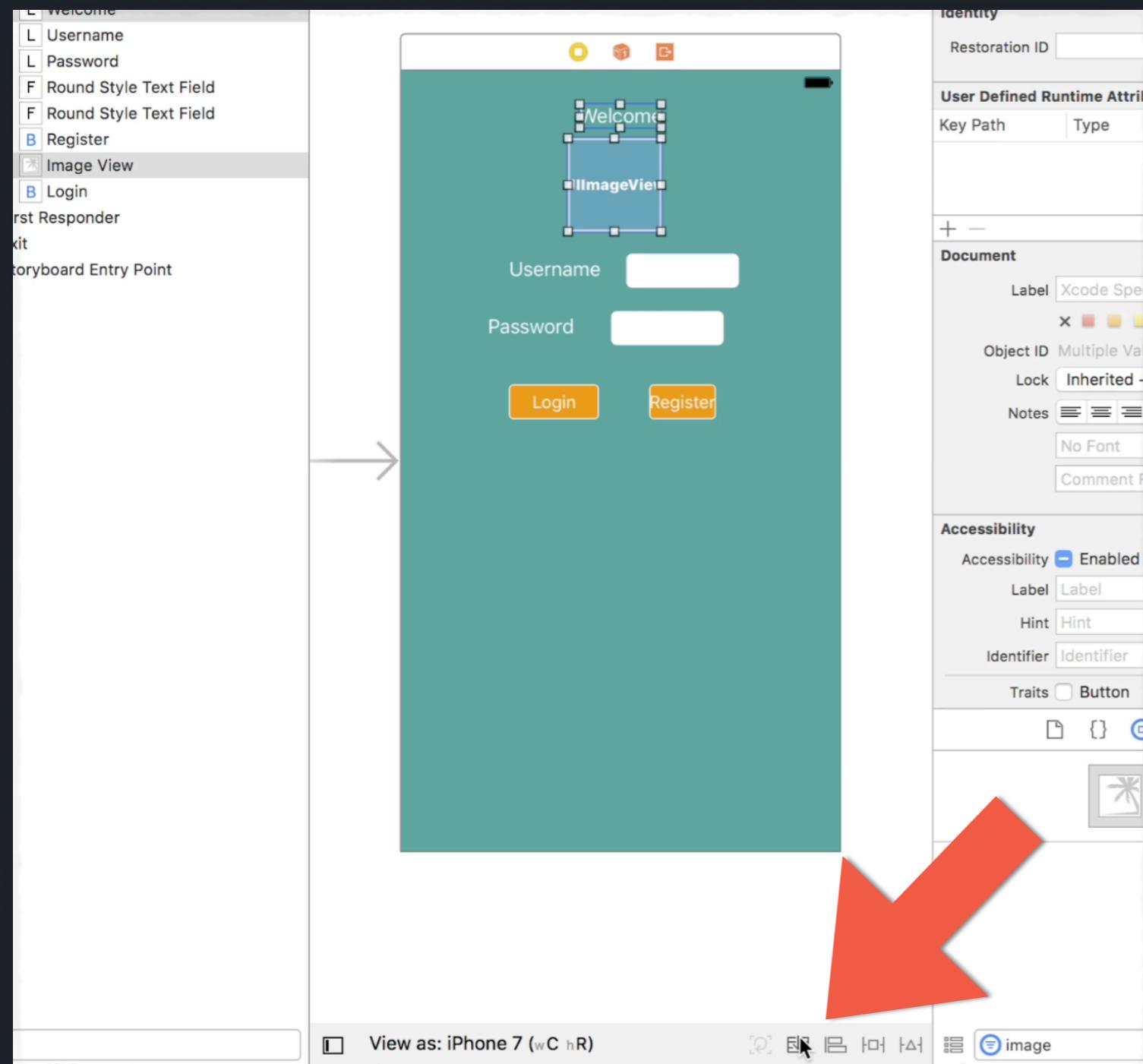
- **StackView**
 - Alignment
 - Distribution
 - Spacing
- **Adaptive Layout**
 - Set attributes based on the “Size-class”
 - Set constraint by “Varying for Size-class Traits”
 - Set image based on the “Size-class” in Xcode Assets.

Start from the basic



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

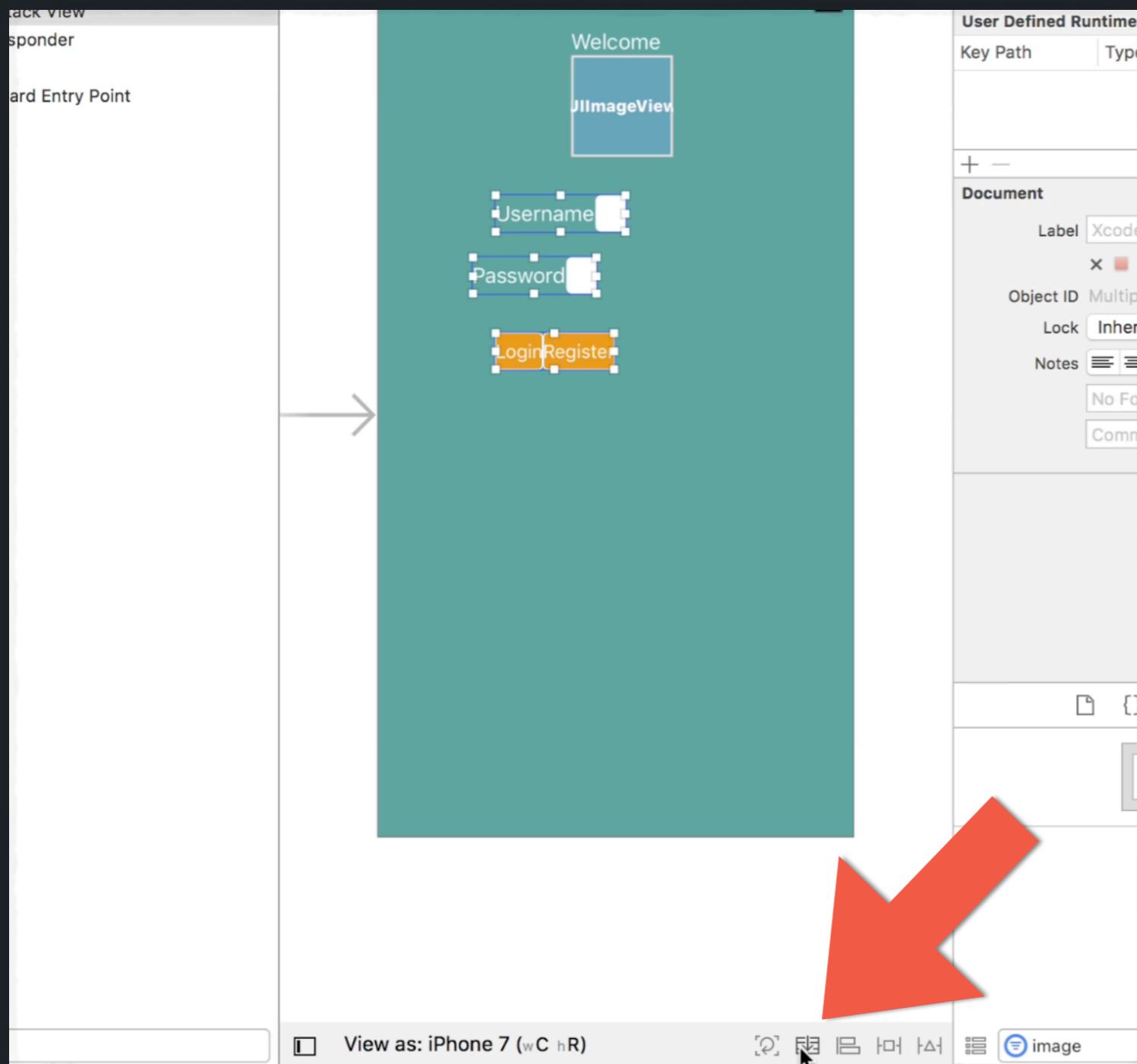
StackView



- **"WelcomeStack"**

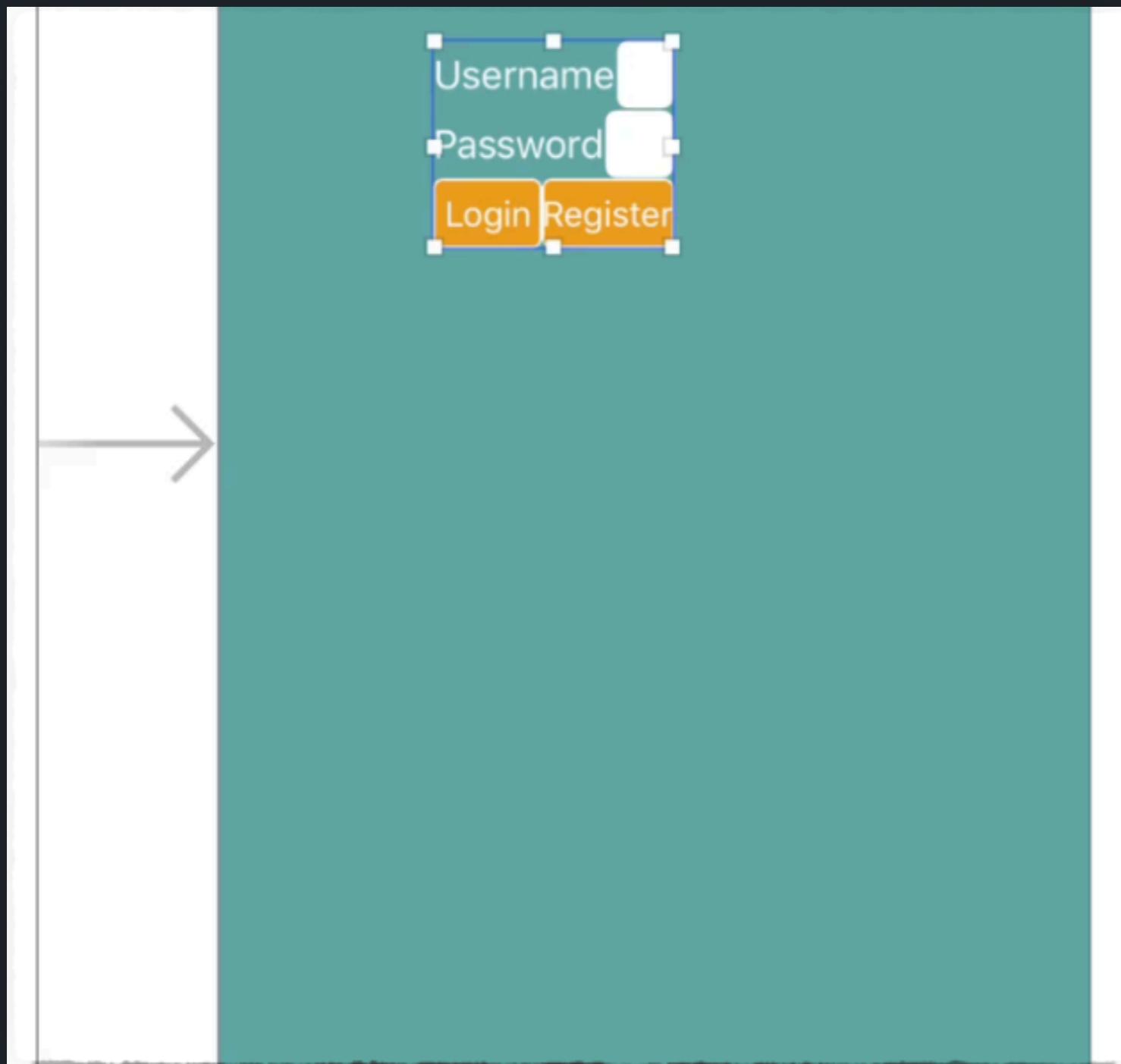
- Welcome Label
- ImageView

StackView



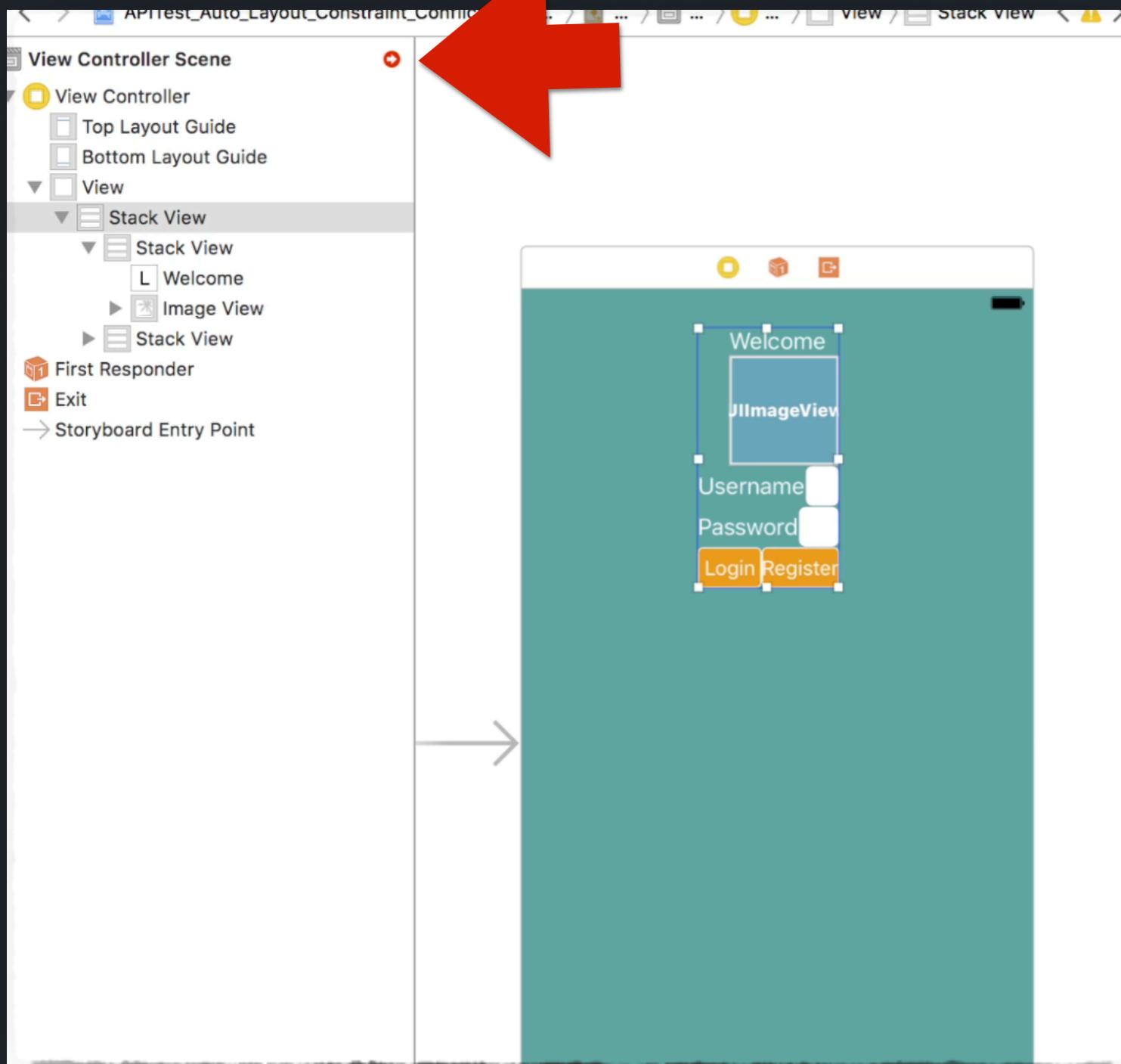
- **"InputStackCell"**
 - Label & TextView
 - Buttons

StackView



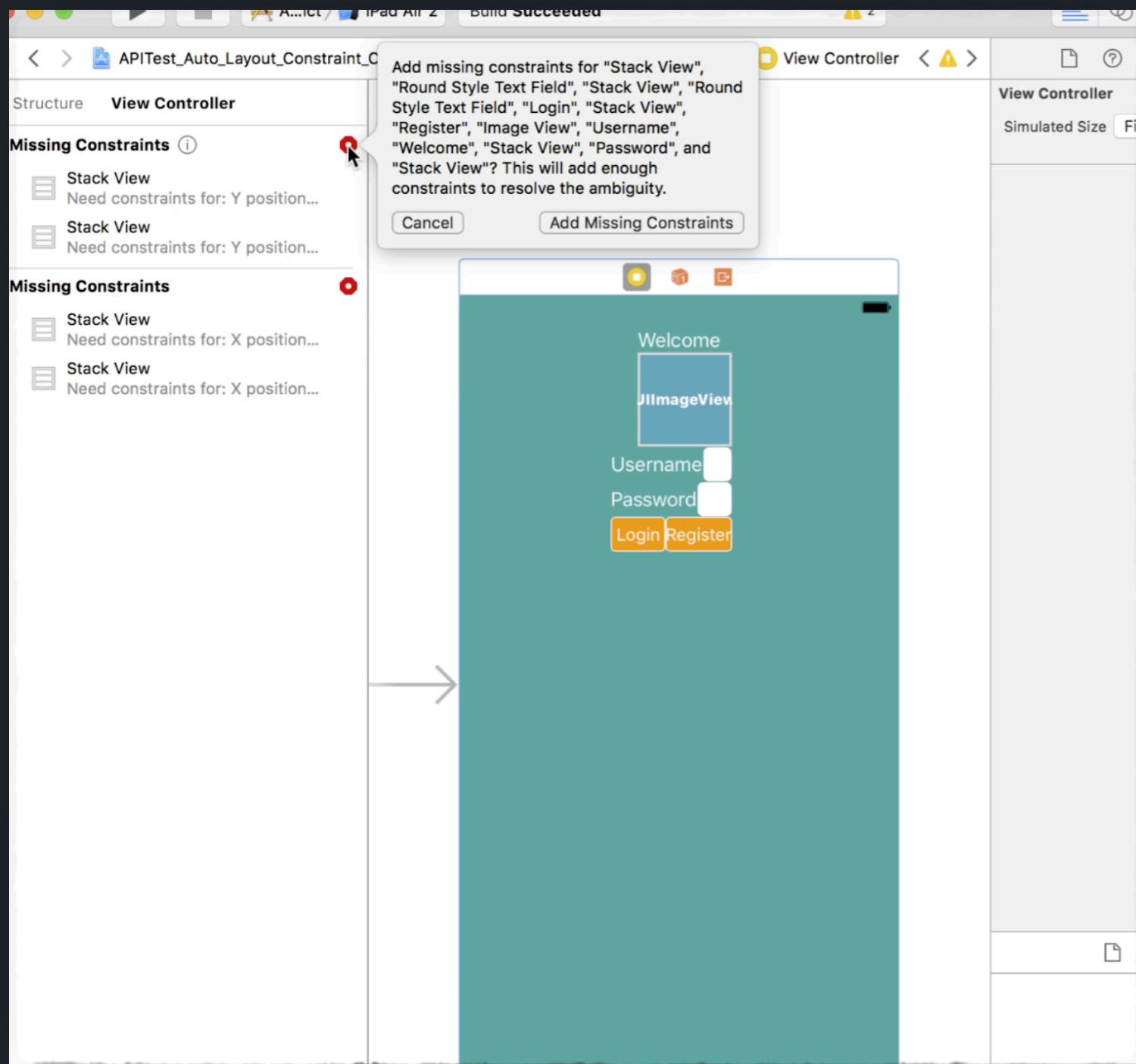
- “**InputStack**”
 - 3 sets of “**InputStackCell**”

StackView



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

Auto-layout

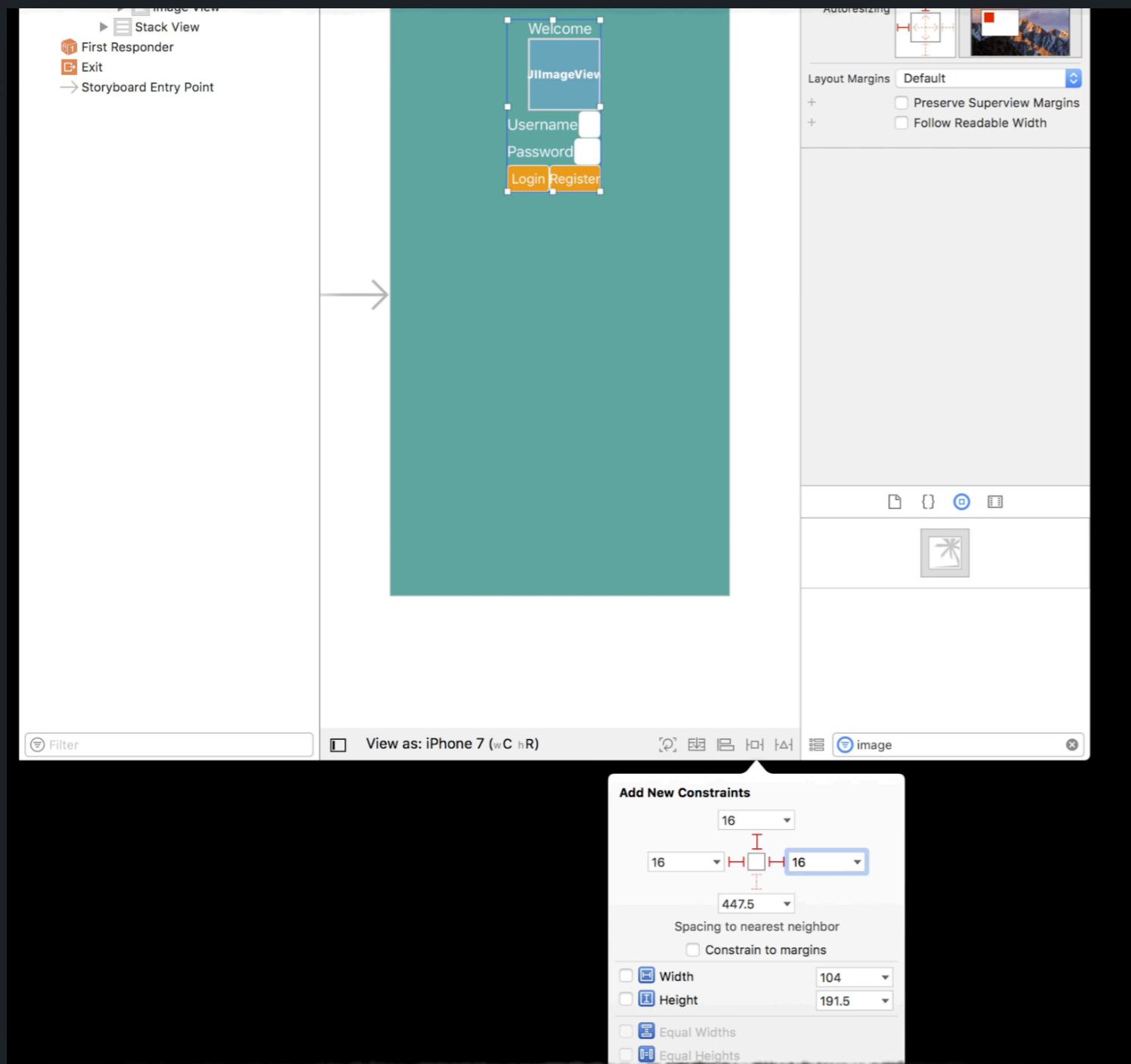


- **Non-ambiguous & Satisfiable**

- Width and Height

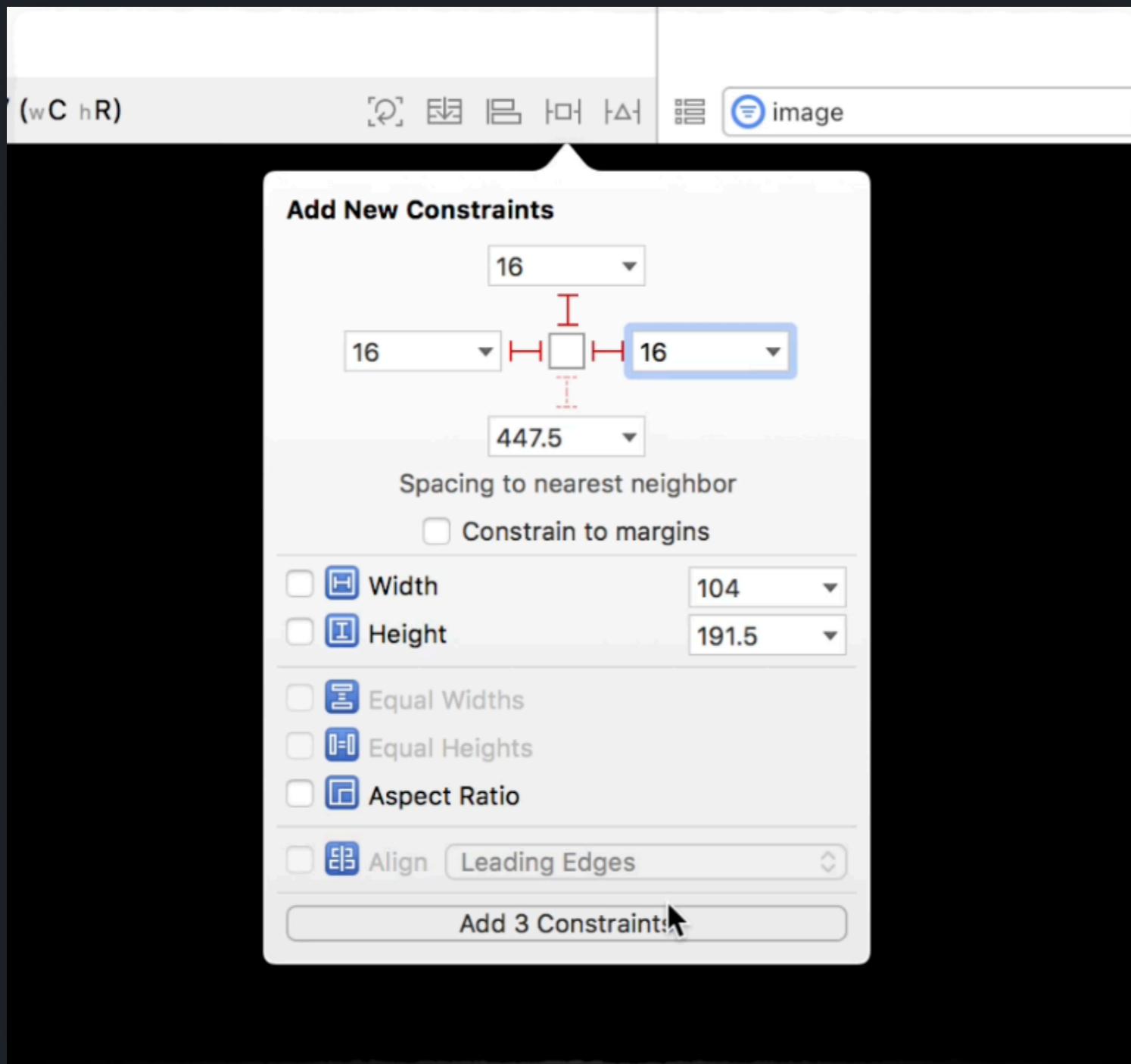
- Horizontal and Vertical Position

Auto-layout



- **Pin panel**

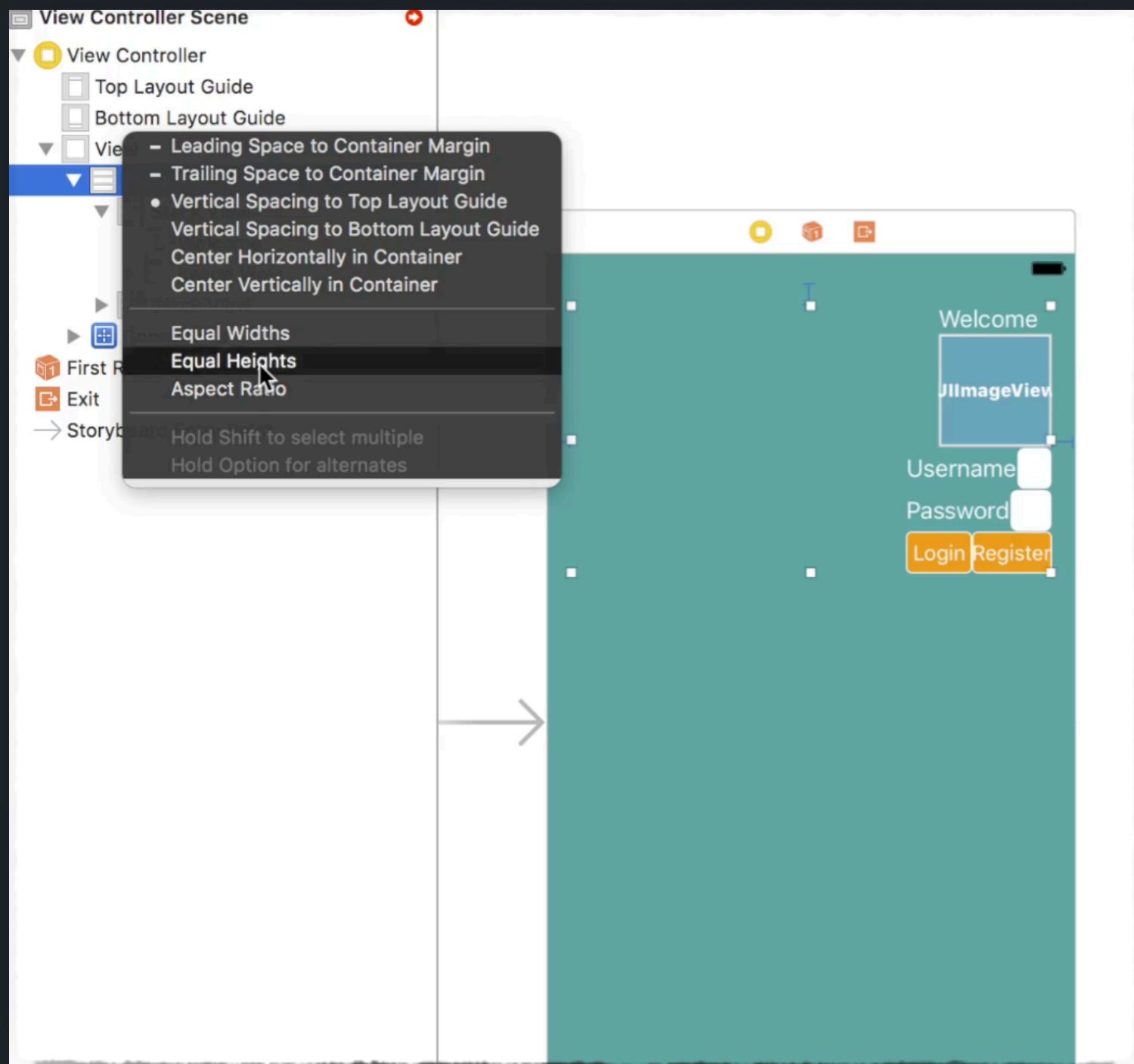
Auto-layout



- **Pin panel**

- “Constrain to margins”

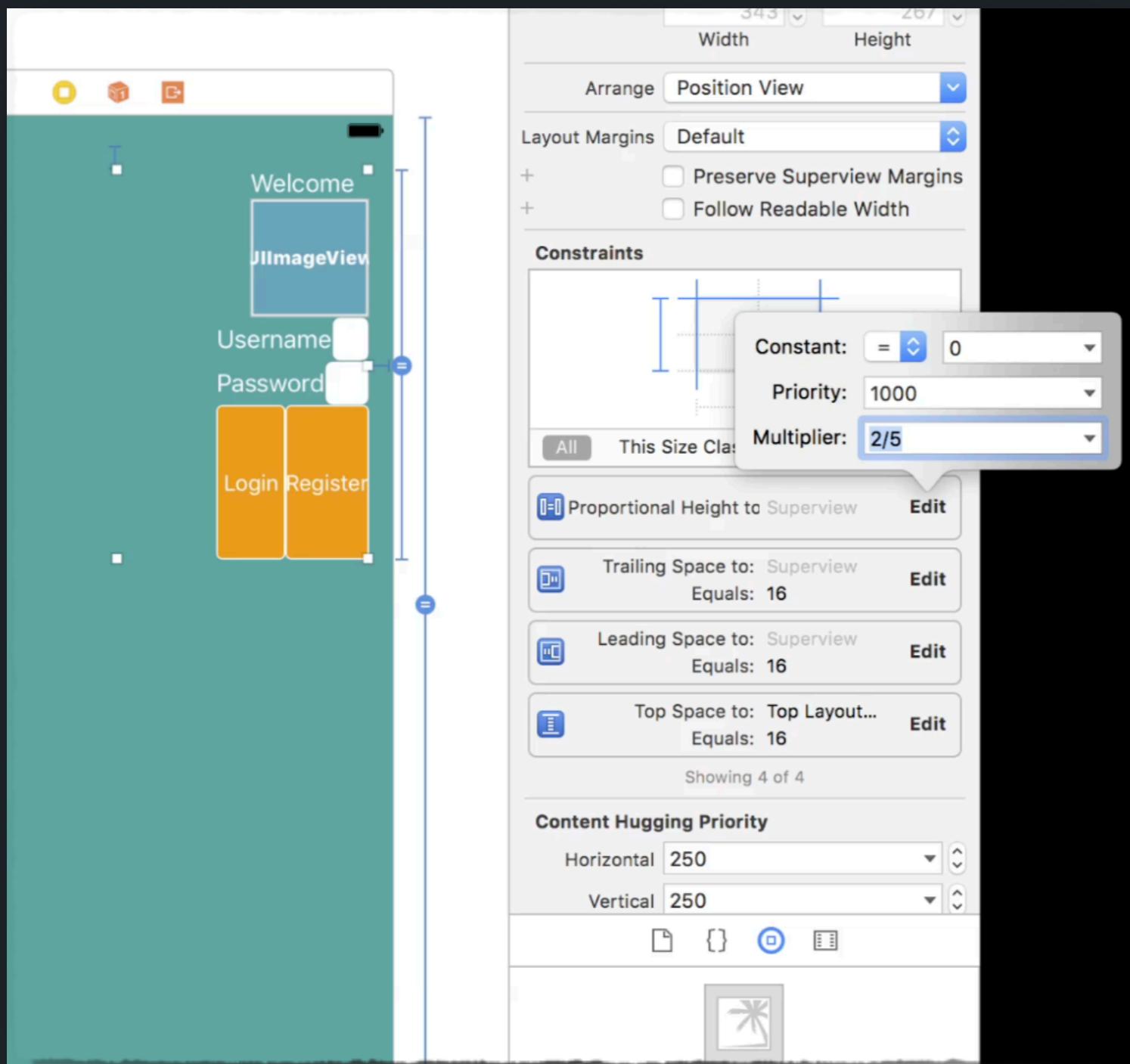
Auto-layout



- **Equal Heights**

- "MasterStack"
- BackgroundView

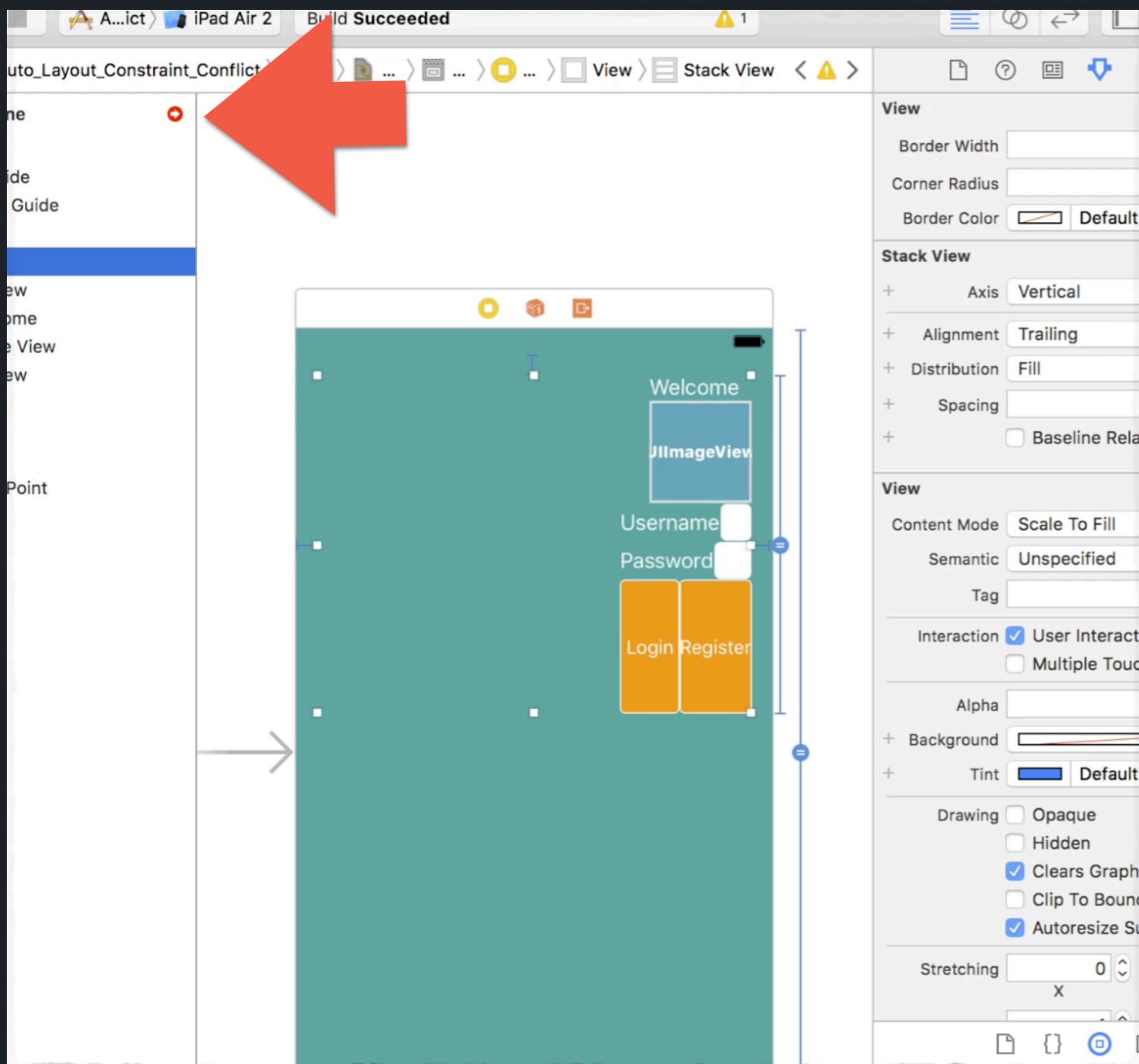
Auto-layout



- **Proportional Height**

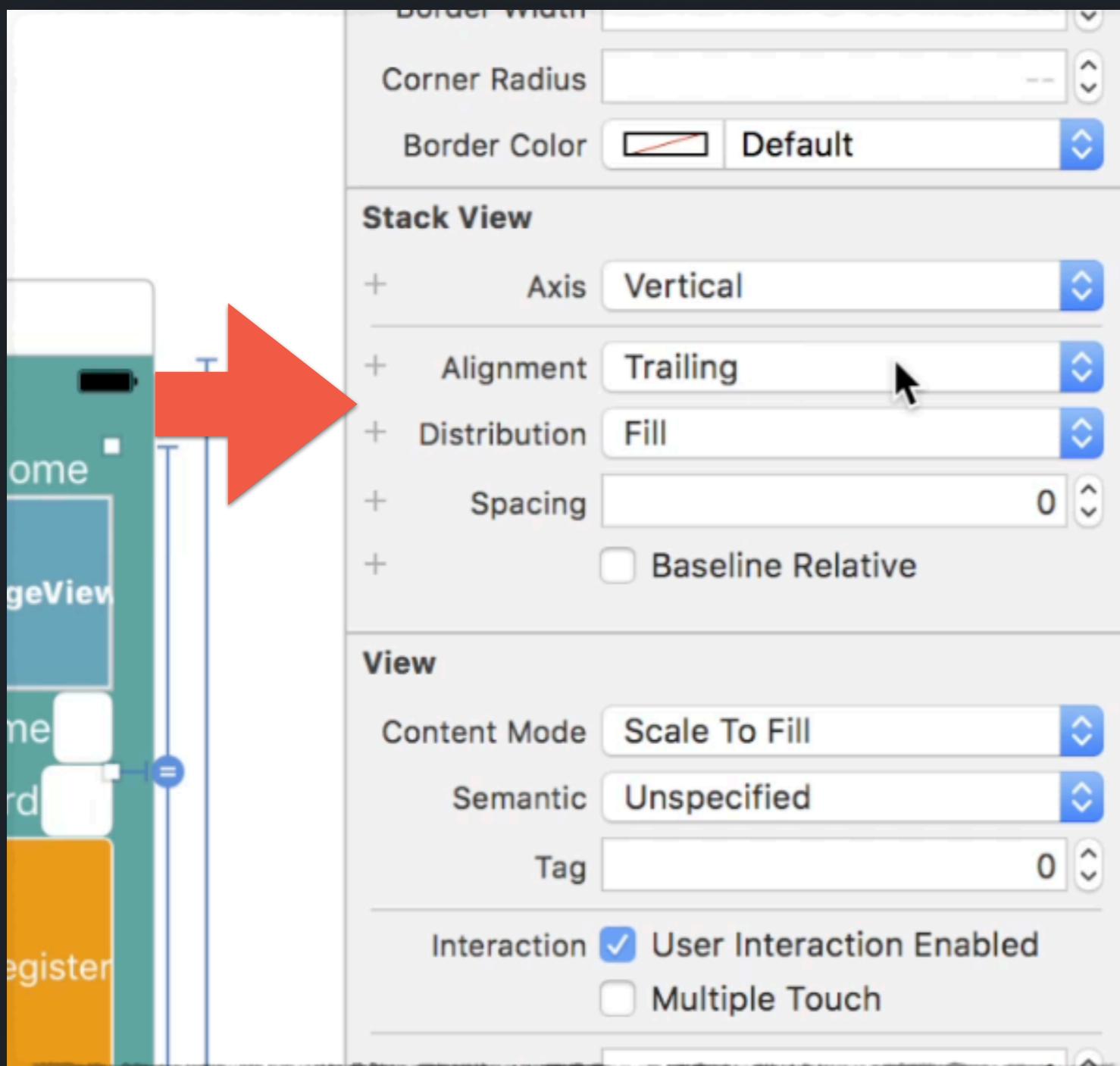
- "MasterStack"
- BackgroundView
- Multiplier 2/5

StackView



- Unsatisfied yet
- Remove the “Red Warning”

StackView



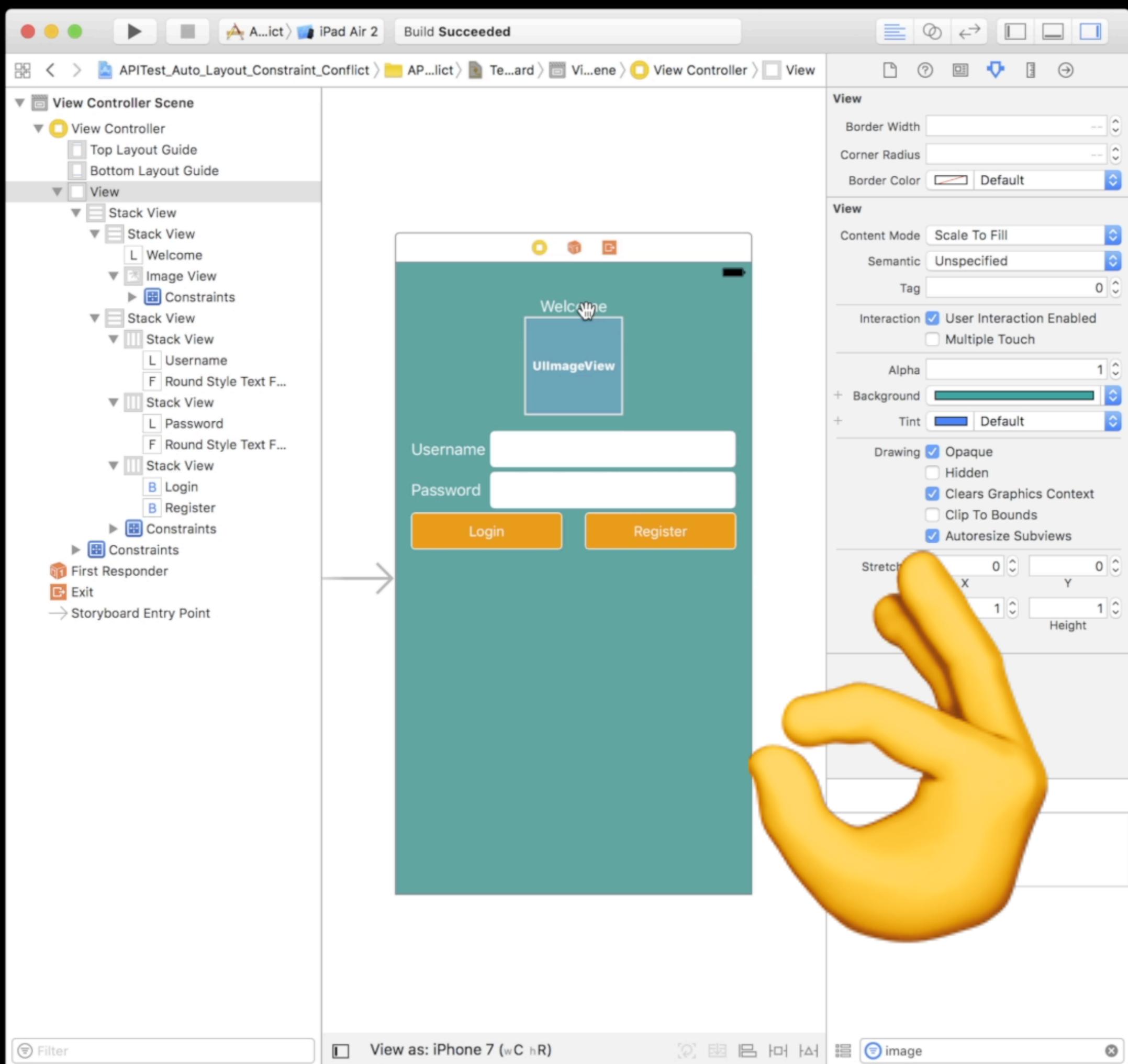
- **StackView Attributes**

- Alignment
- Distribution
- Spacing

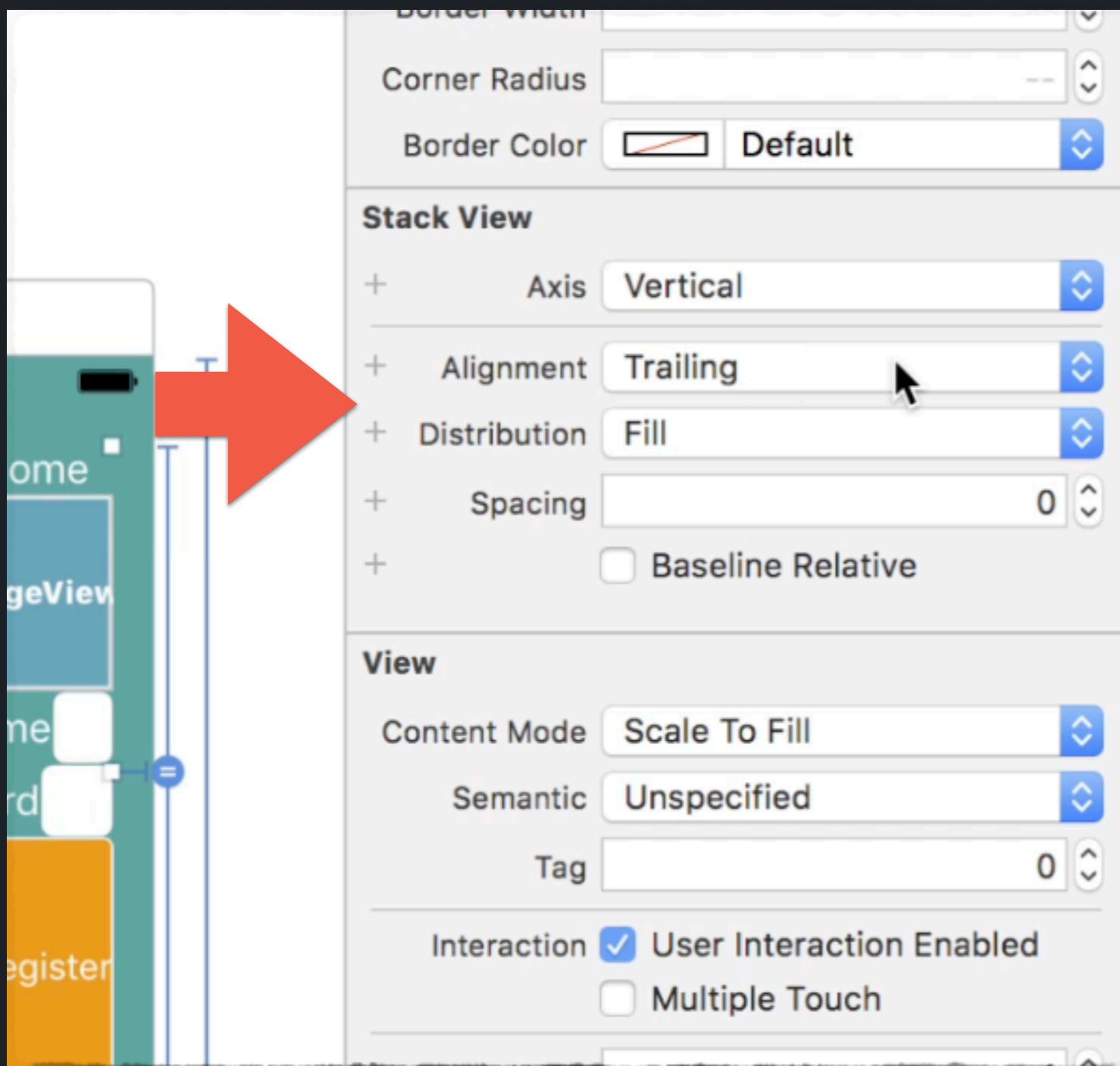
StackView

Video Demo

Count the time



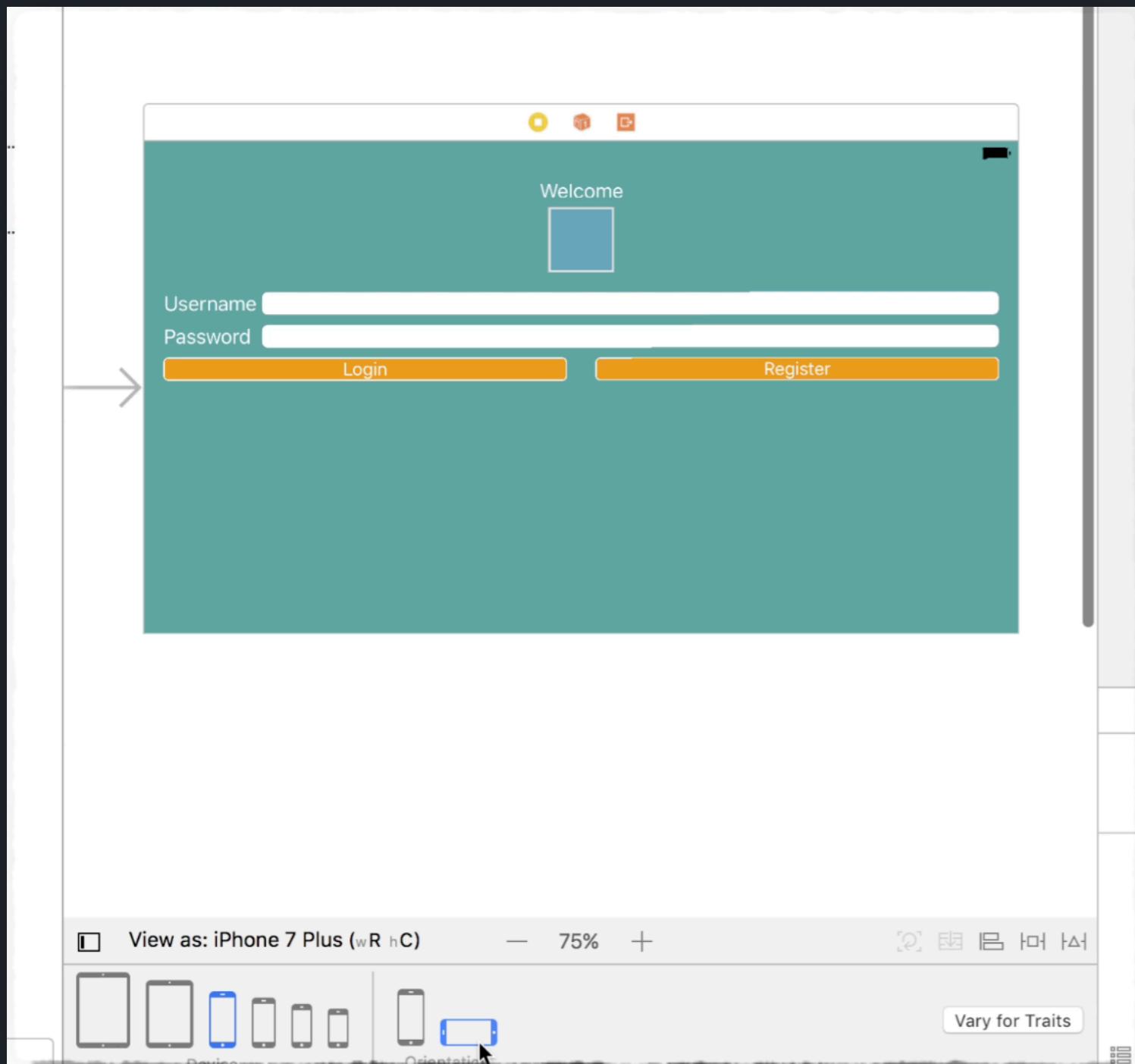
StackView



- **StackView Attributes**

- Alignment
- Distribution
- Spacing

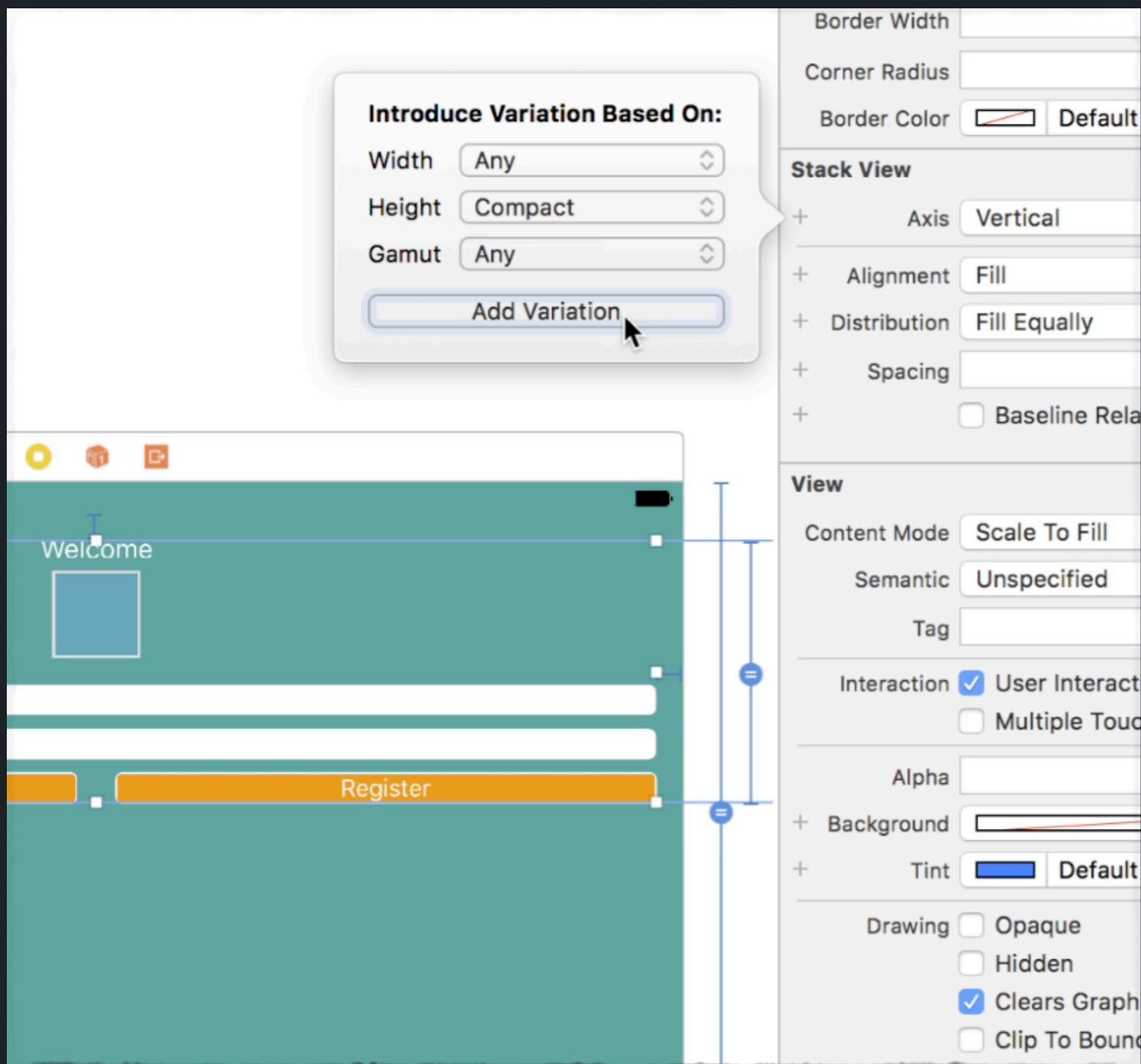
Adaptive Layout



- **Reposition**

- "WelcomeStack"
- "InputStack"

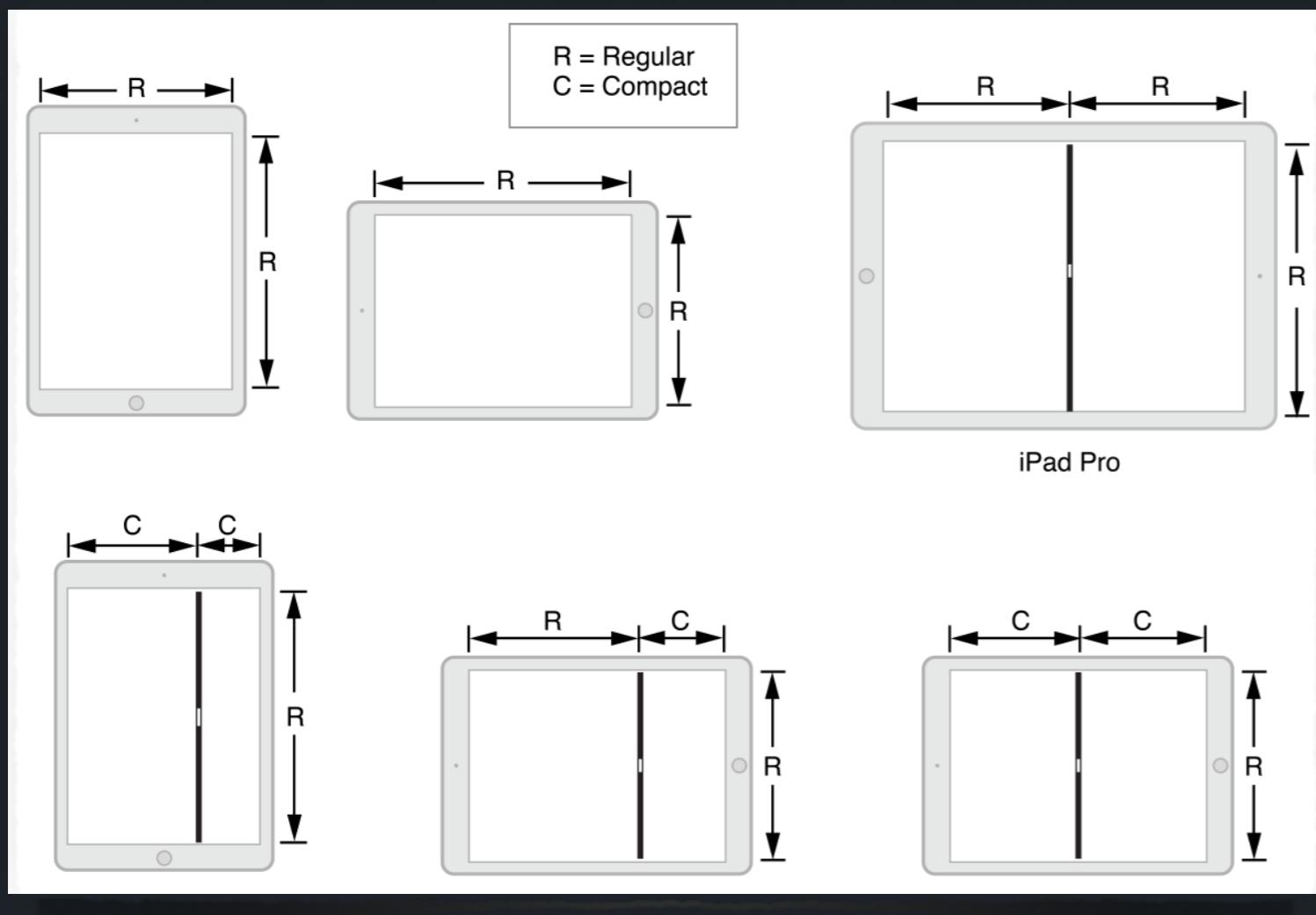
Adaptive Layout



- **Sizing Class**

- Set attributes based on the “Size-class”

Sizing Class

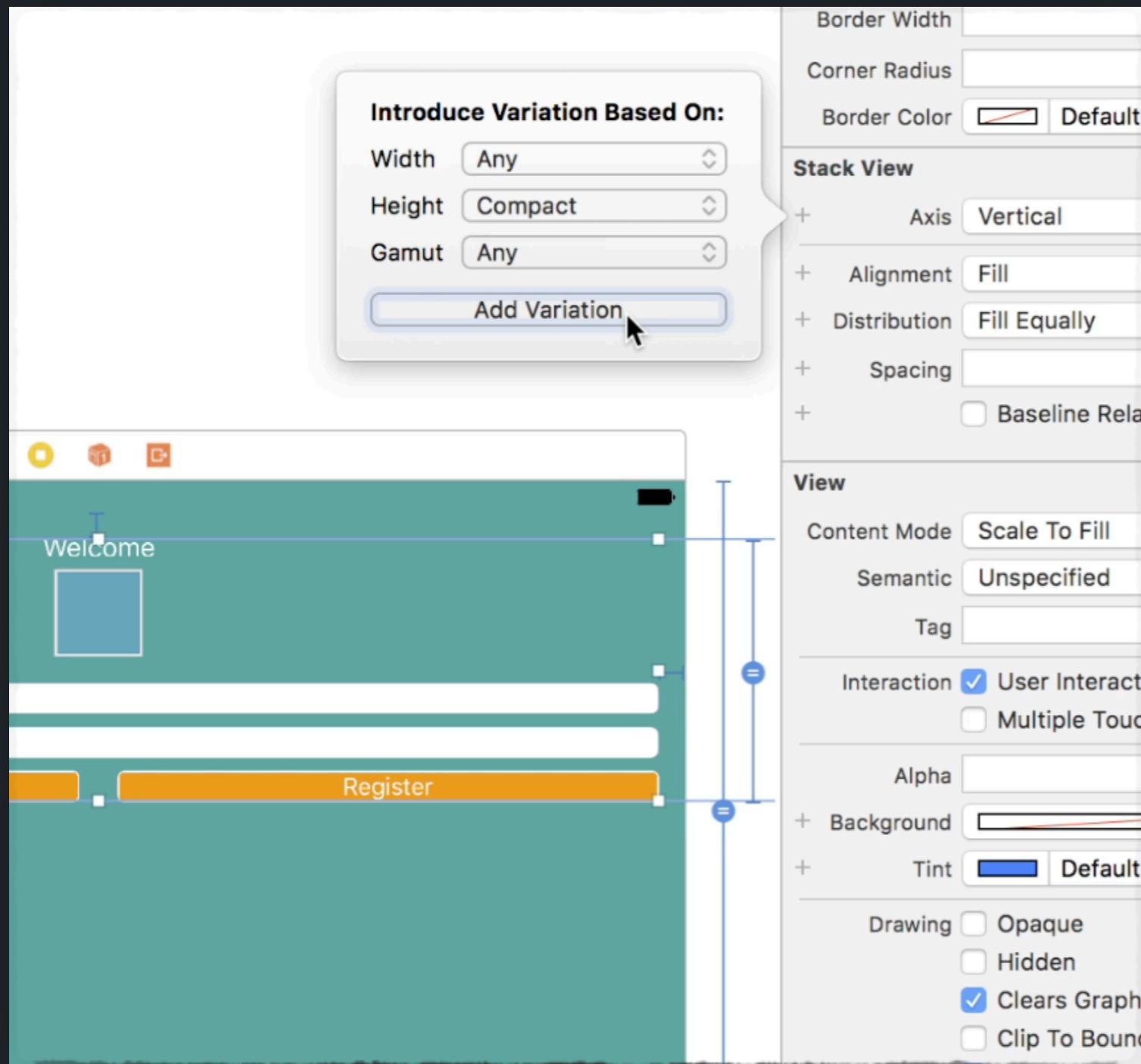


- **Sizing Class**

- Any
- Regular
- Compact

Example: iPad Sizing Class

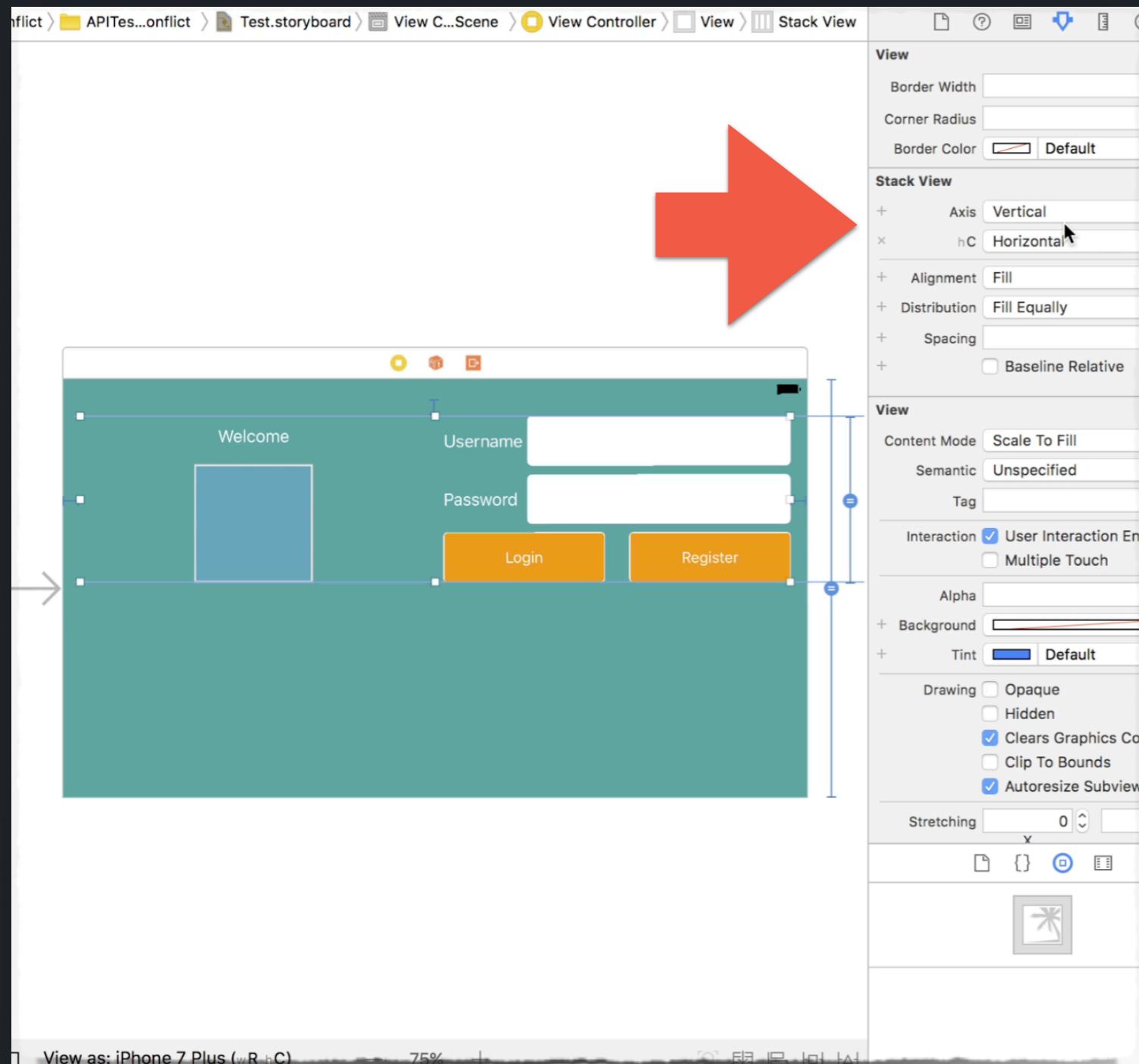
Adaptive Layout



- **Sizing Class**

- **Add Variation**

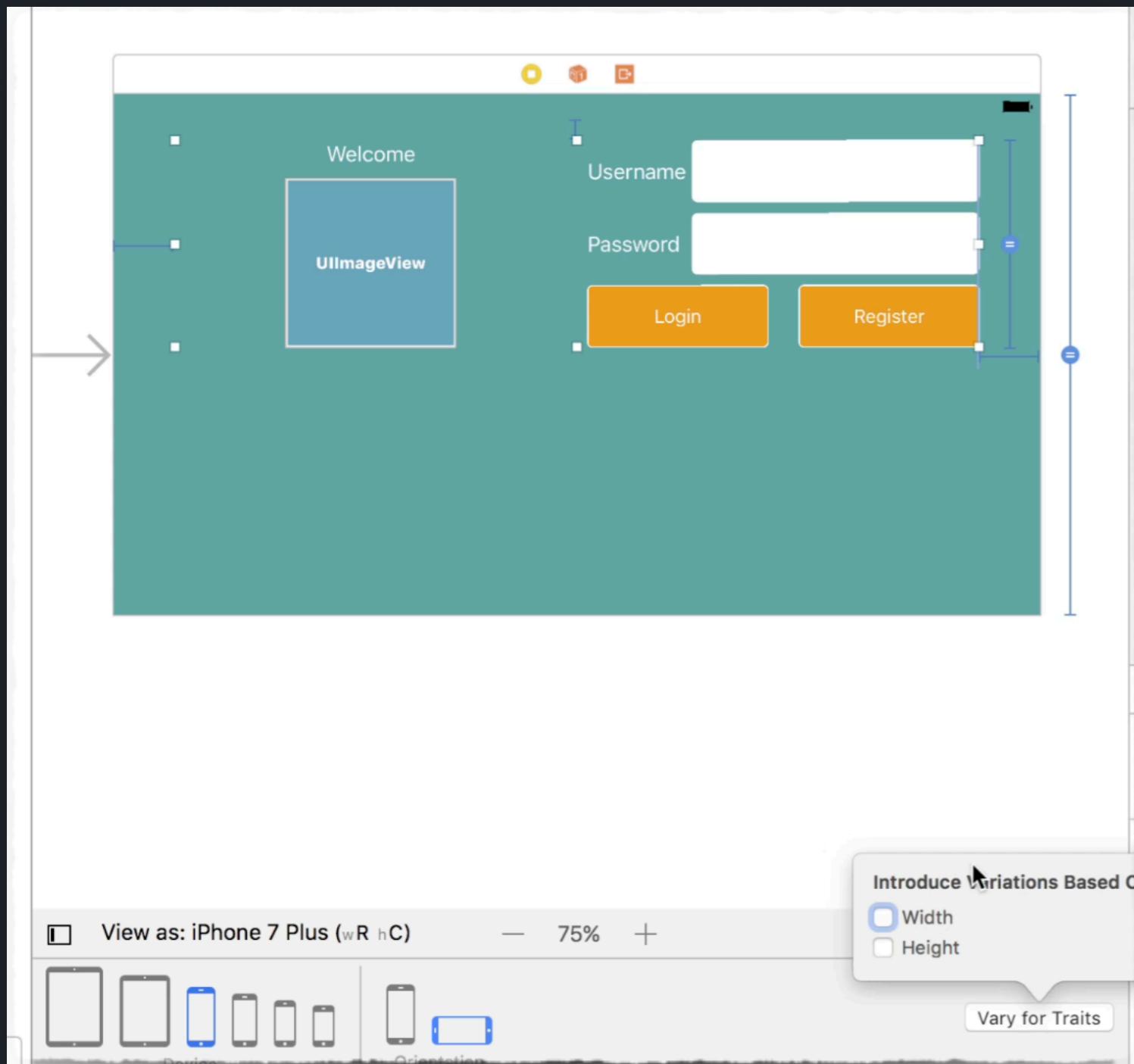
Adaptive Layout



- **Sizing Class**

- Different attributes based on the "Size-class"

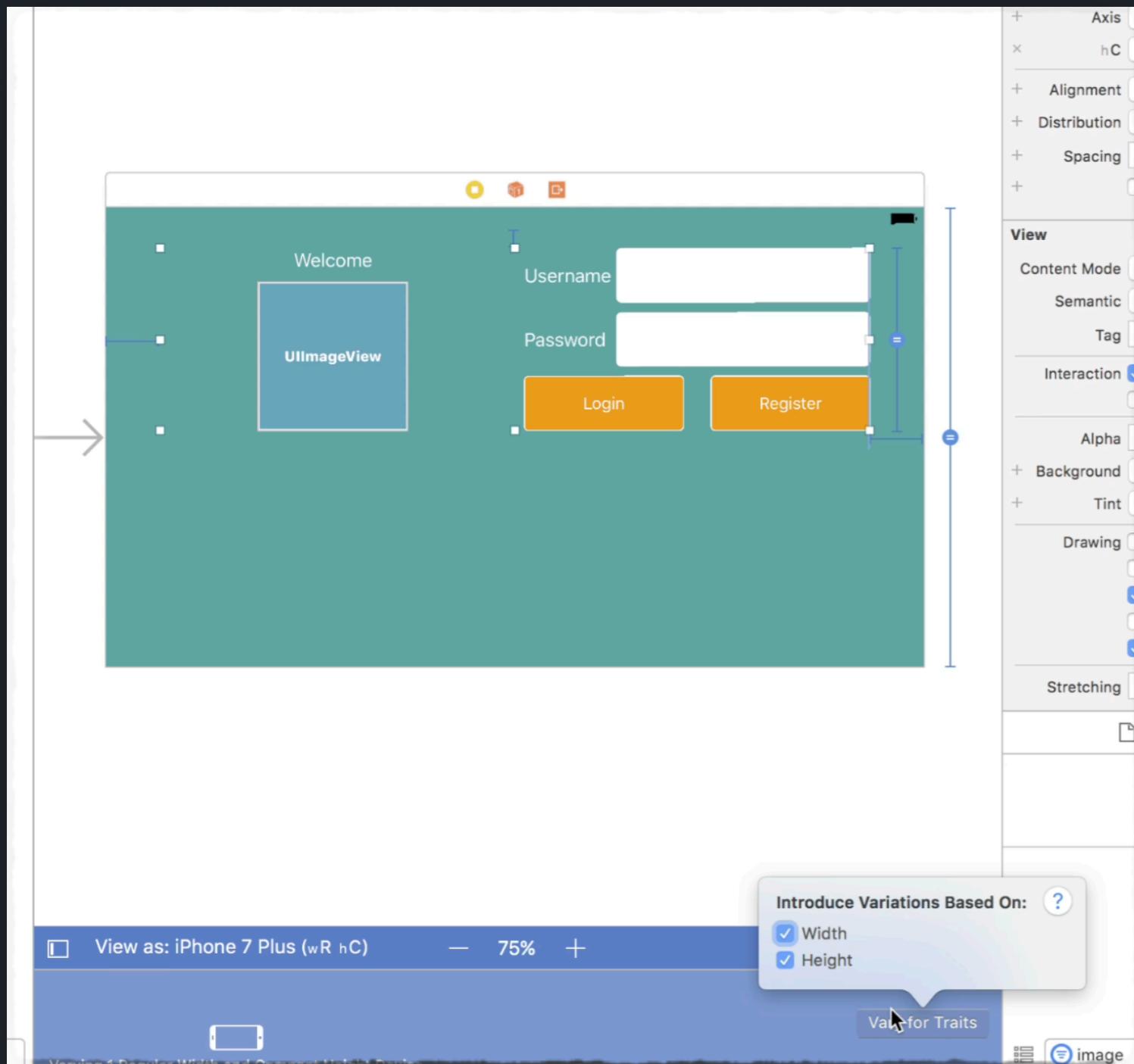
Adaptive Layout



- **Sizing Class**

- Vary for Traits

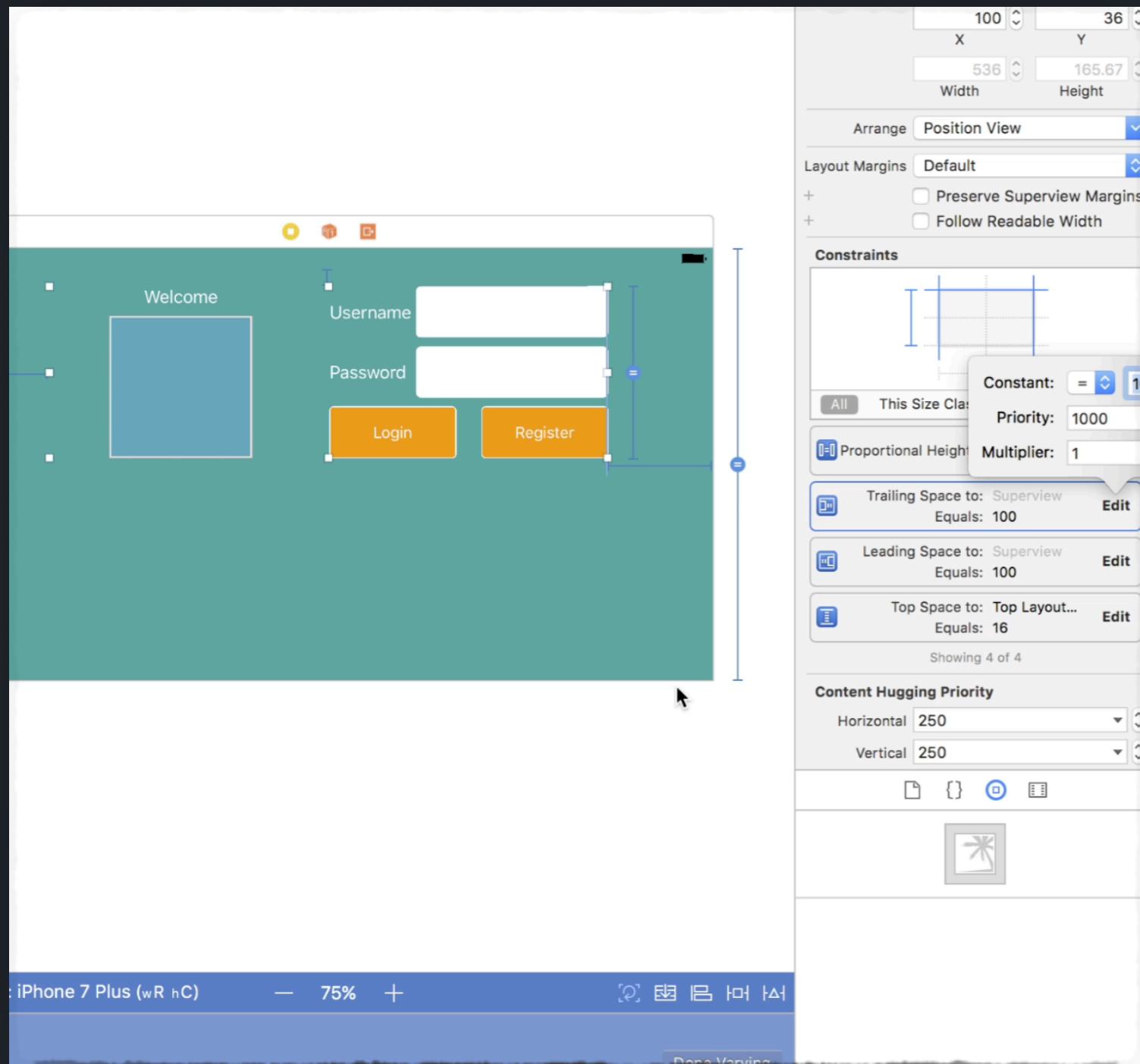
Adaptive Layout



- **Sizing Class**

- Set constraint by “Varying for Size-class Traits”

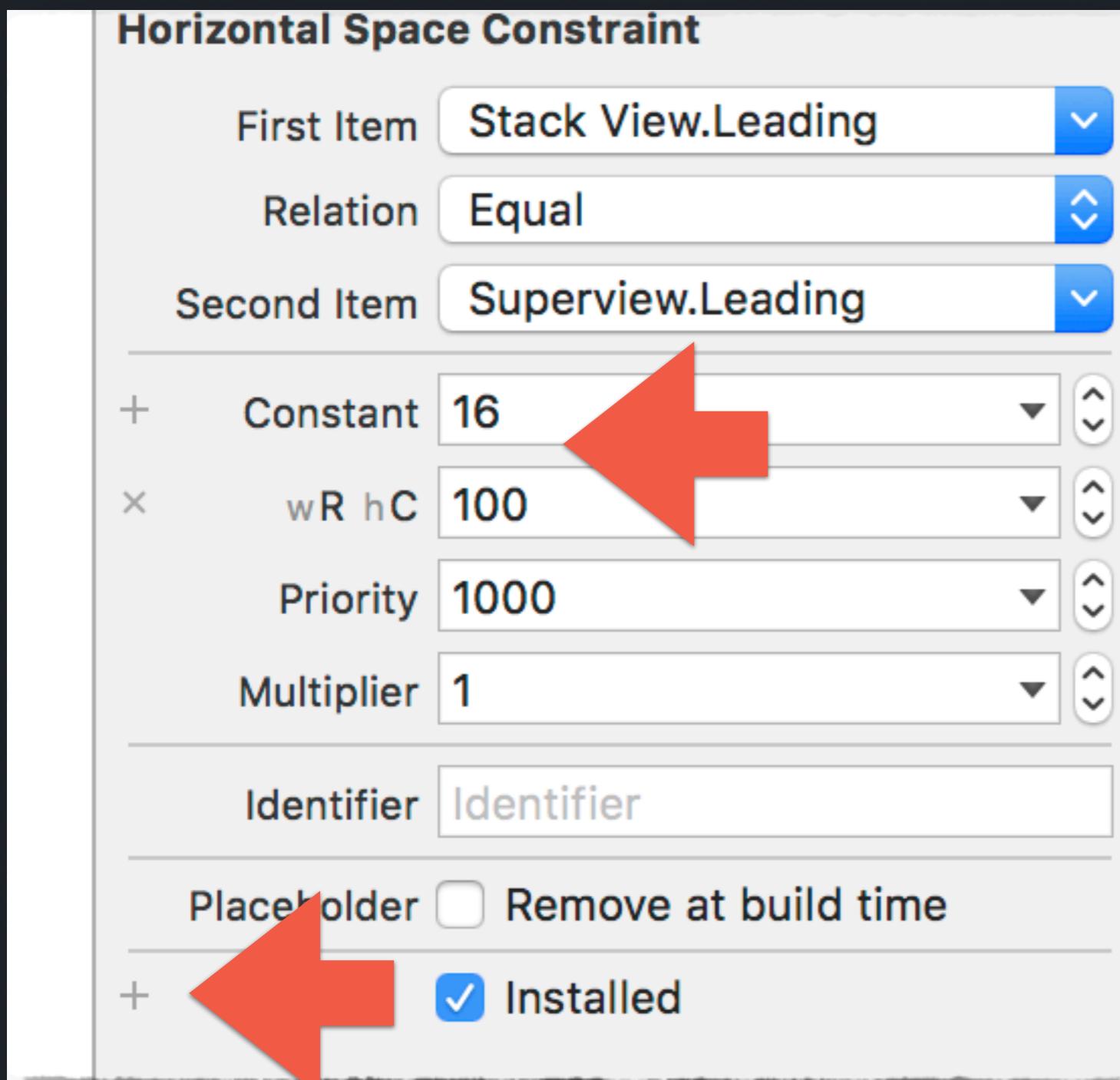
Adaptive Layout



- **Sizing Class**

- Set constraint by “Varying for Size-class Traits”

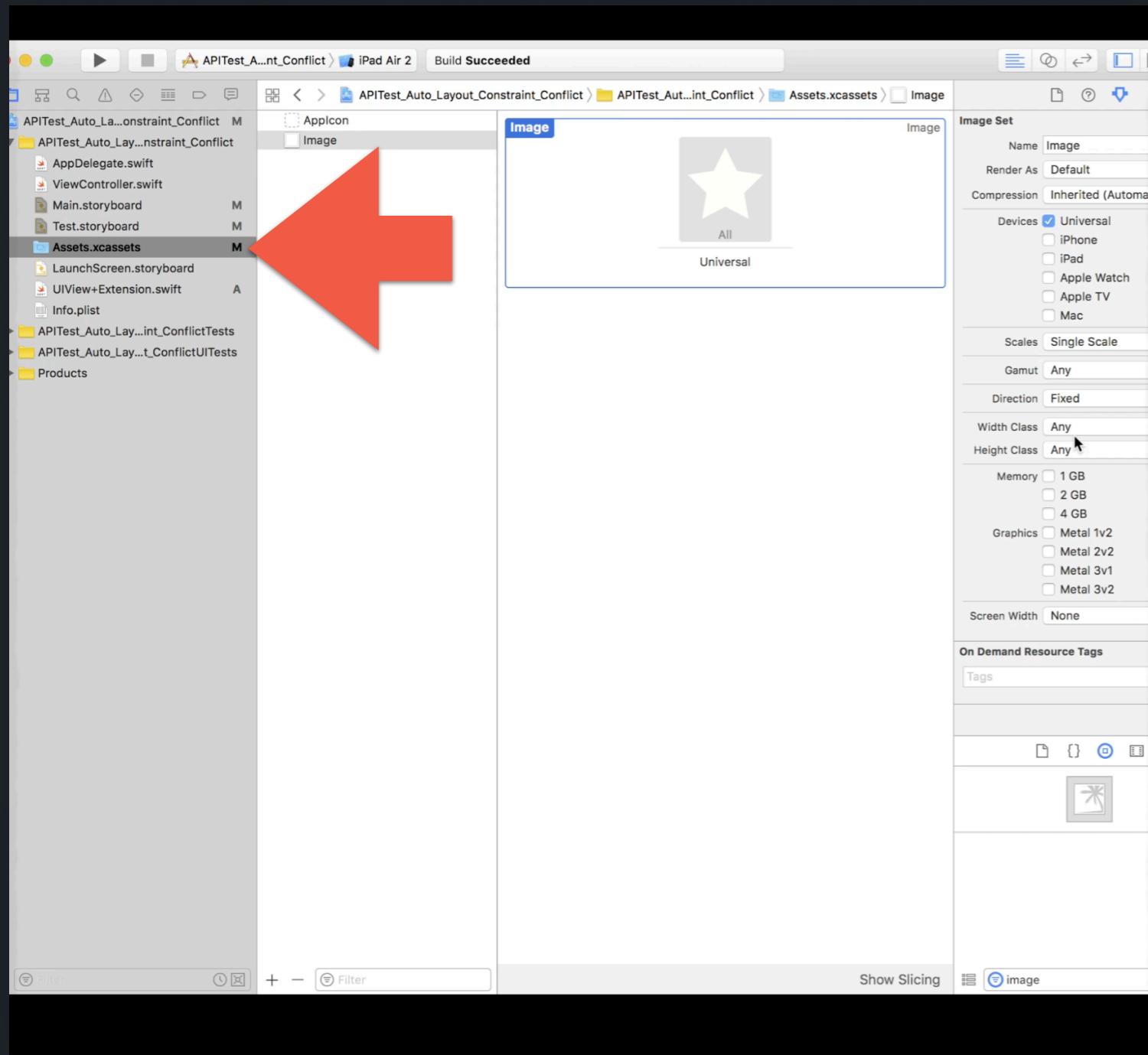
Adaptive Layout



- **Sizing Class**

- Set constraint by "Varying for Size-class Traits"
- Install constraint by "Varying for Size-class Traits"

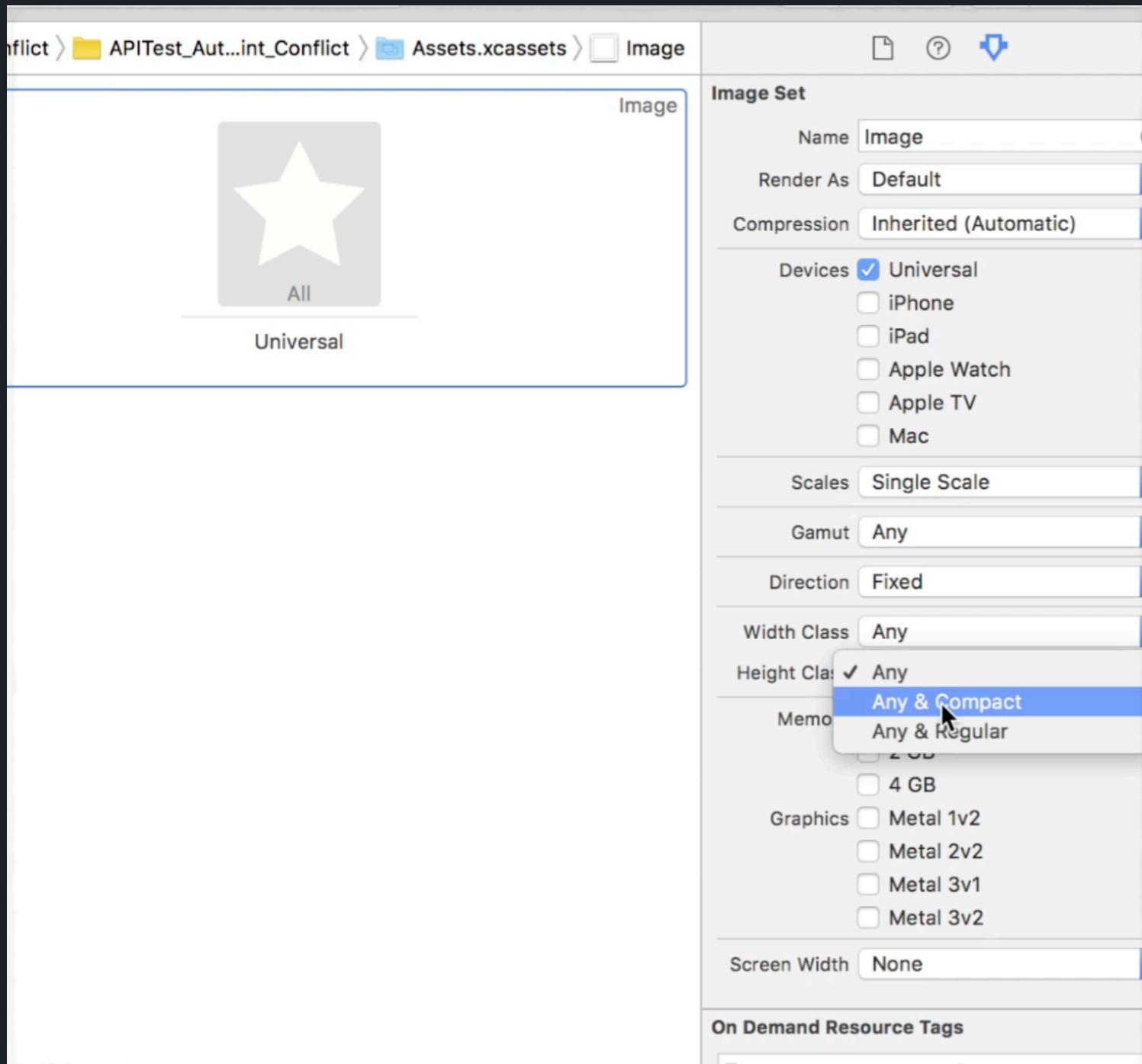
Adaptive Layout



- **Sizing Class**

- Set image based on the "Size-class" in Xcode Assets.

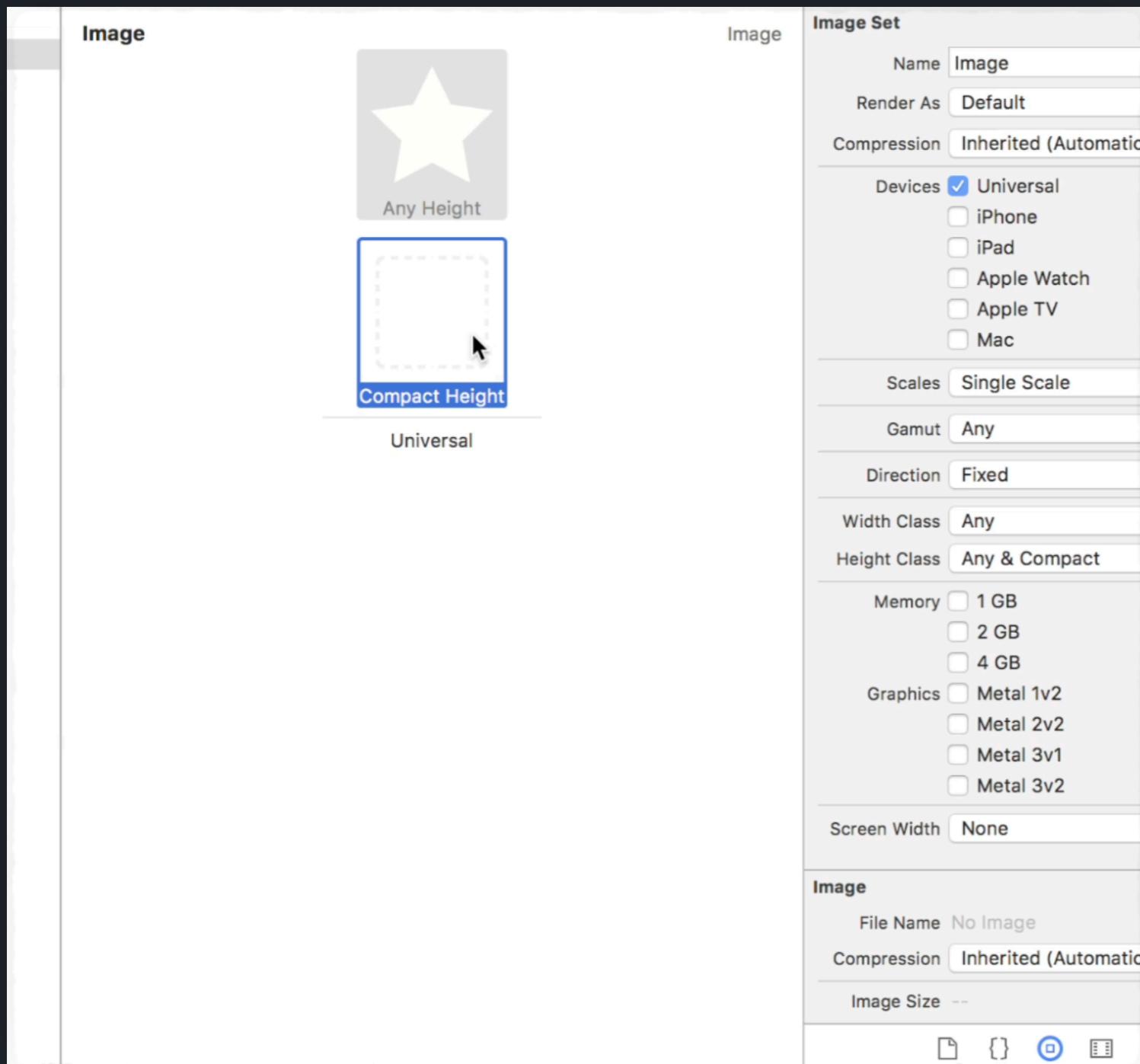
Adaptive Layout



- **Sizing Class**

- Set image based on the "Size-class" in Xcode Assets.

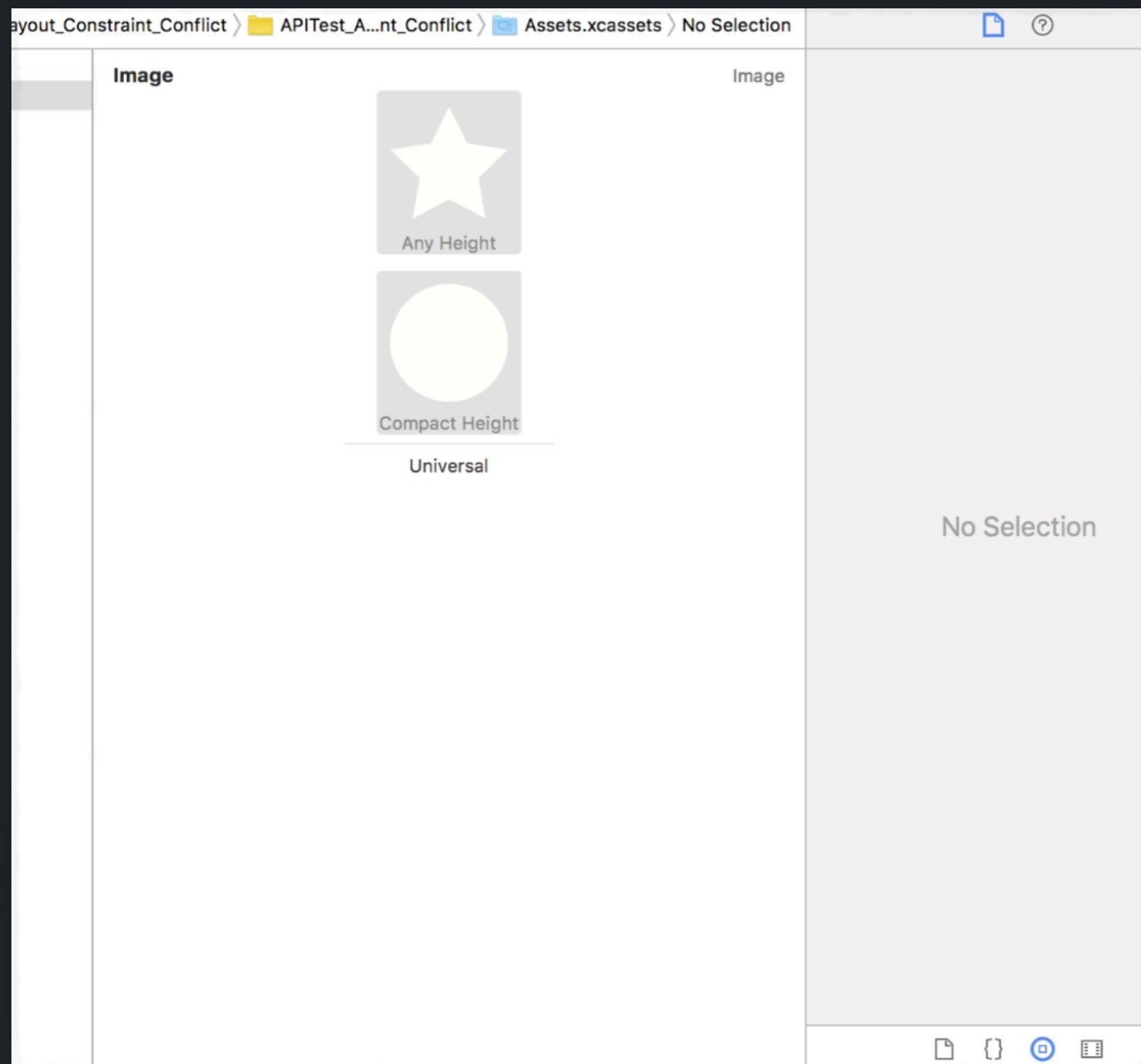
Adaptive Layout



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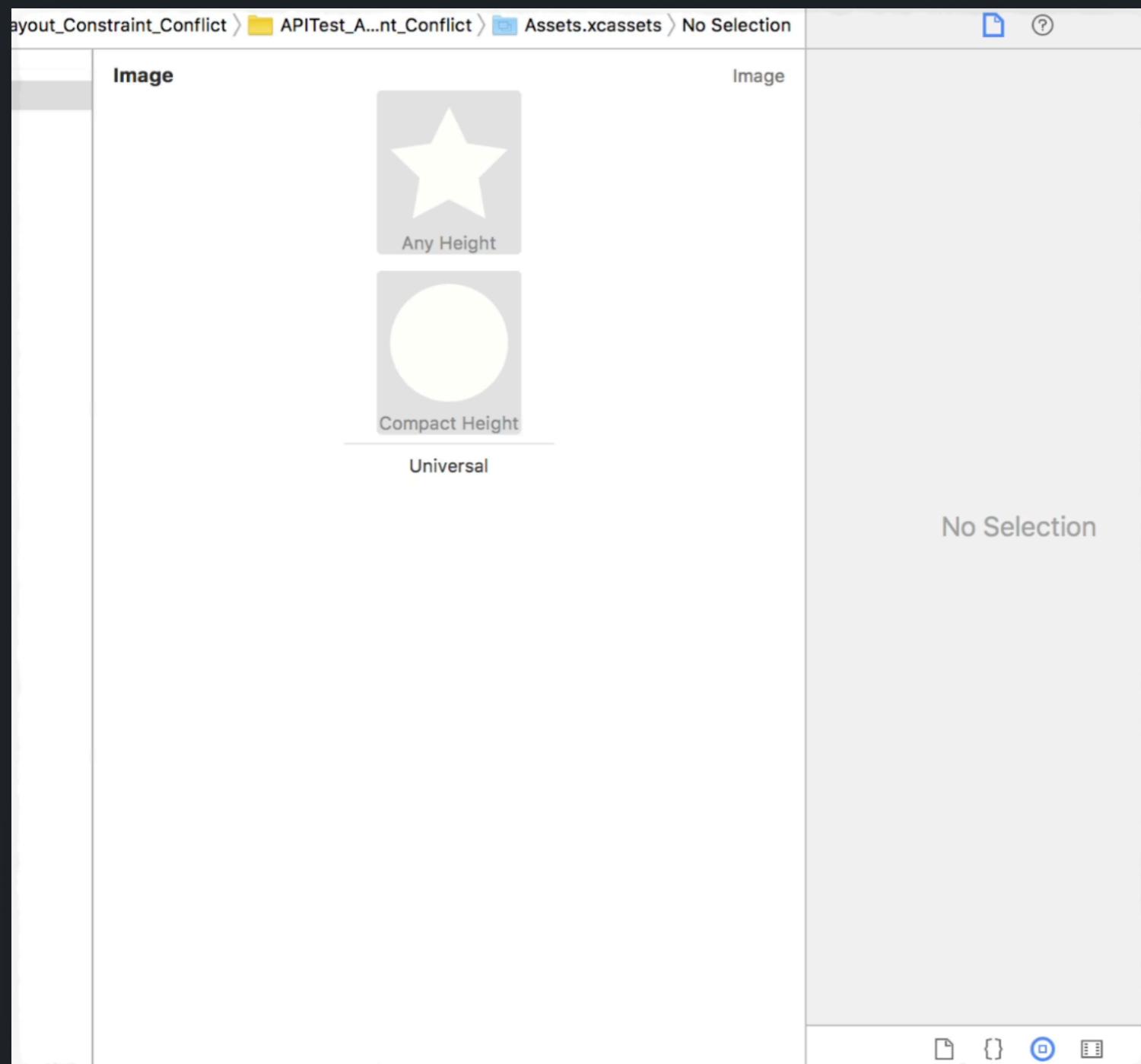
Adaptive Layout



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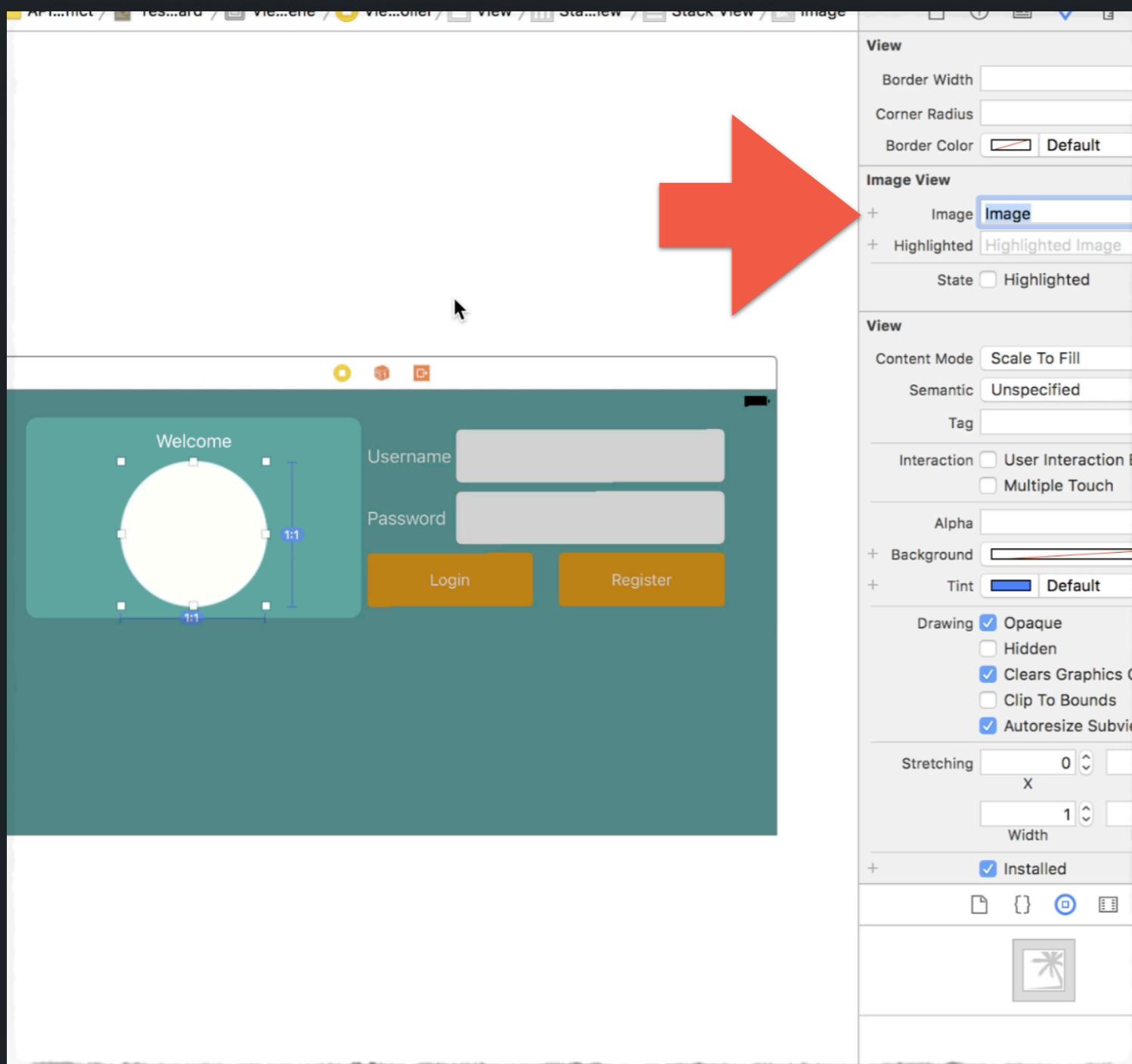
Adaptive Layout



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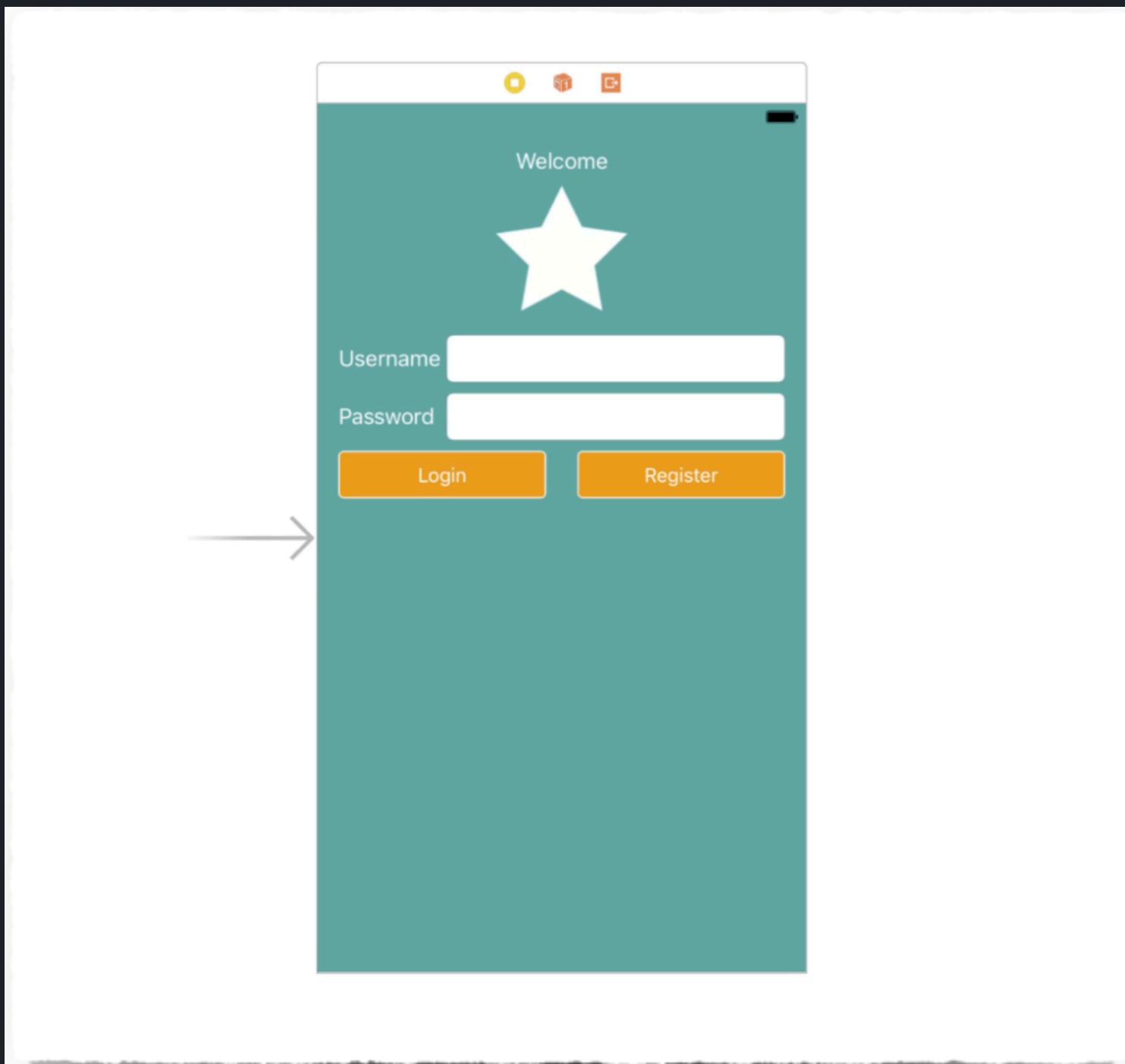
Adaptive Layout



- **Sizing Class**

- Just set the image
- Xcode Assets handle for you

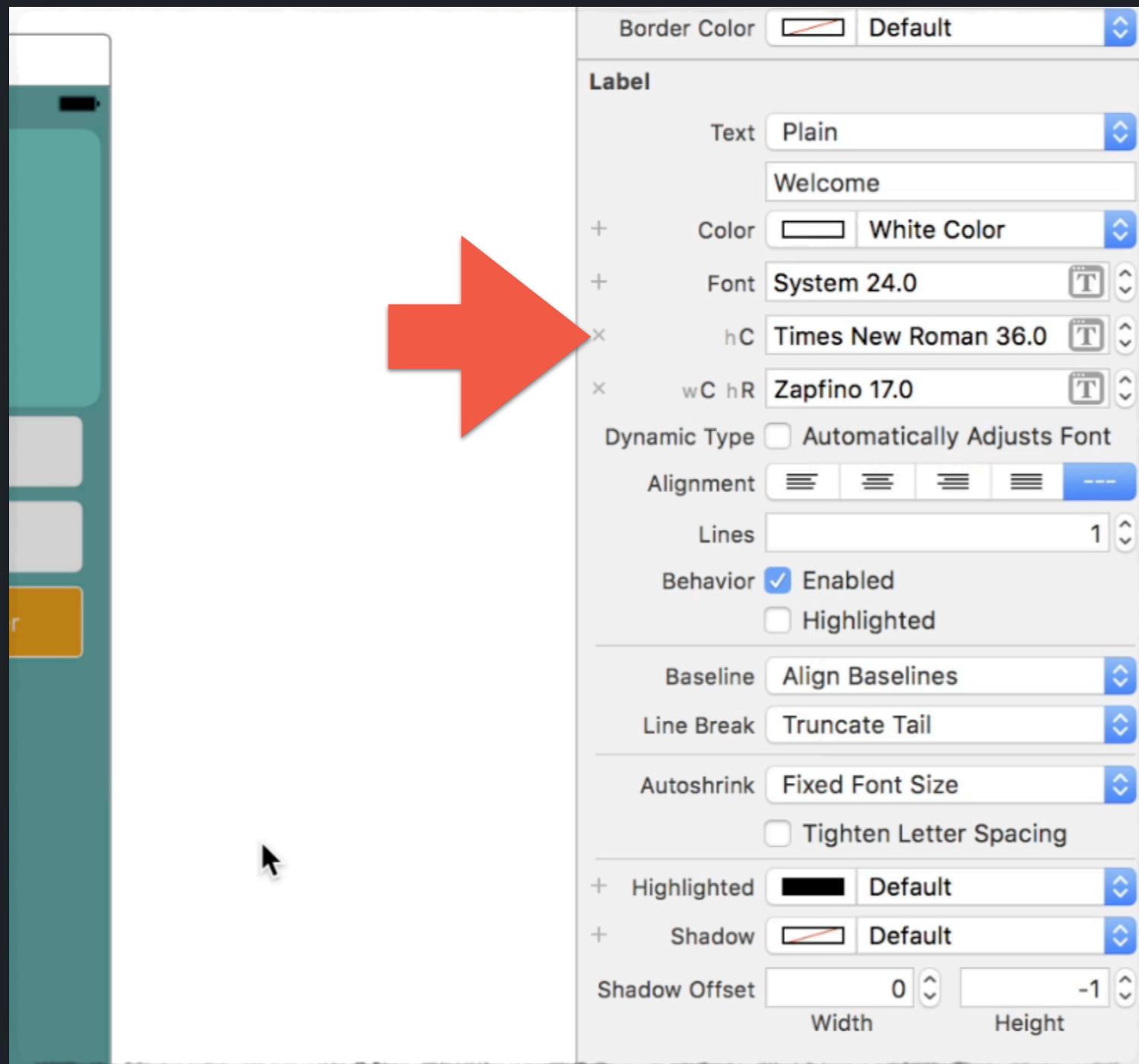
Adaptive Layout



- **Sizing Class**

- Just set the image
- Xcode Assets handle for you

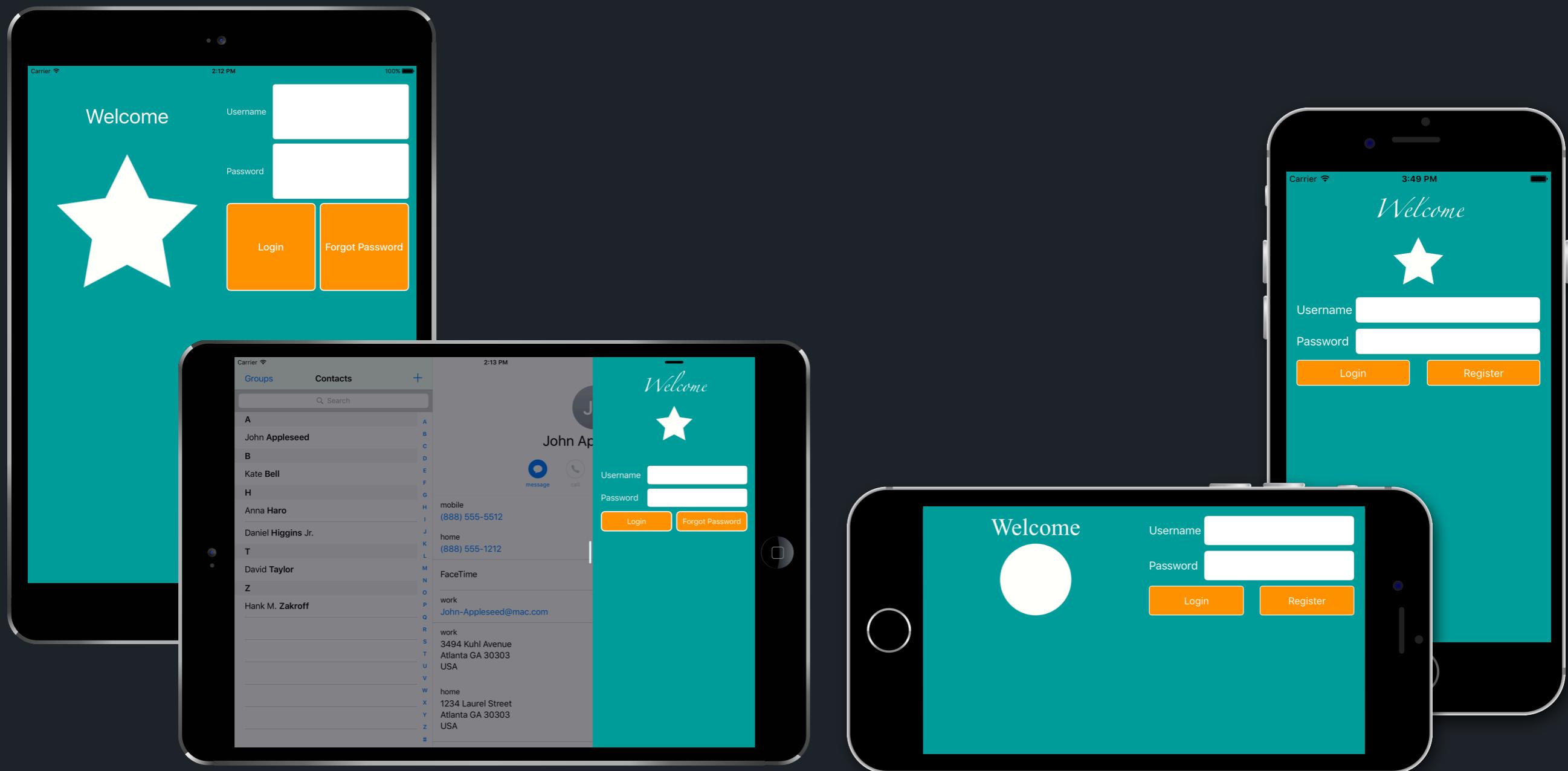
Adaptive Layout



- **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



Profile

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Portfolio