

Custom Collection View Layouts

Hands-on Challenges

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Challenge E: Context

The cells look great now they contain a photo, but as this layout is being used to display the schedule of the Inspiration track from RWDevCon, there are several key pieces of information missing, and therefore the content is lacking context.



So your challenge this time is to add the session title to the cell and have it scale as it becomes the featured cell, as well as to add speaker, room, and time details which, just like the overlay, should fade into view as the cell transitions from being a standard cell to the featured.

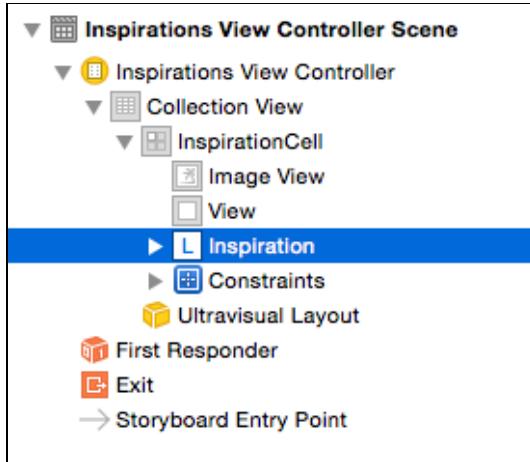
Hint: For scaling the title you should investigate the `transform` property of `UILabel`. Also, the `delta` variable you're already calculating may be able to assist you with fading the speaker, room, and time details.

Before you turn the page for our solution, be sure to give it a try for yourself first!

Solution

Transforming session titles

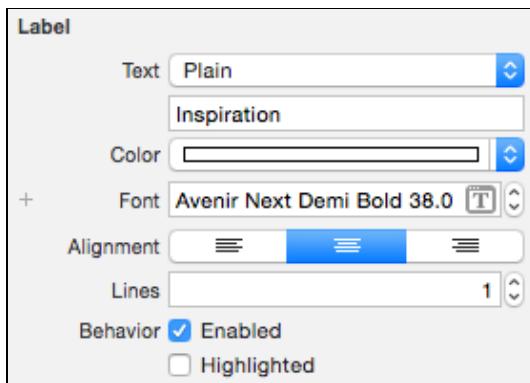
Open **Main.storyboard** and drag a **Label** from the Object Library onto **InspirationCell** in the Document Outline. Make sure the label is created as a sibling of Image View and View, rather than as a child of either:



This is important because you don't want the label to obscured by the overlay.

Select the label, and then in the Attributes inspector make the following changes:

- Set Text to **"Inspiration"**
- Set Font to **Avenir Next**, with a Style of **Demi Bold** and a Size of **38**
- Set Alignment to **Centre** (the middle button)



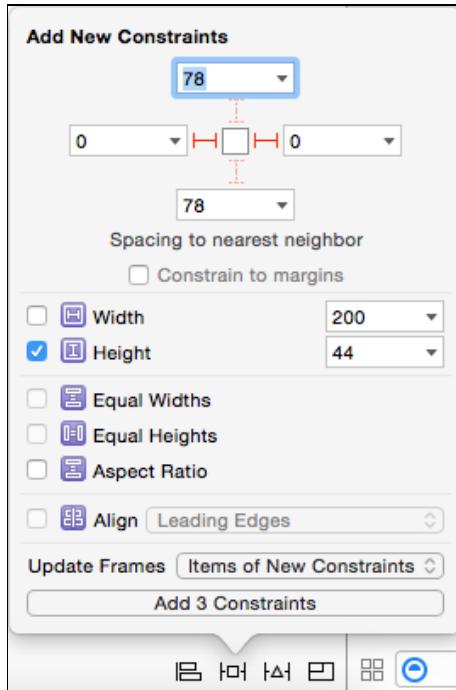
With the label still selected, click the **Pin** button, uncheck Constrain to margins if it's checked, and then add the following layout constraints:

- Enable Leading and set the constant to **0**
- Enable Trailing and set the constant to **0**

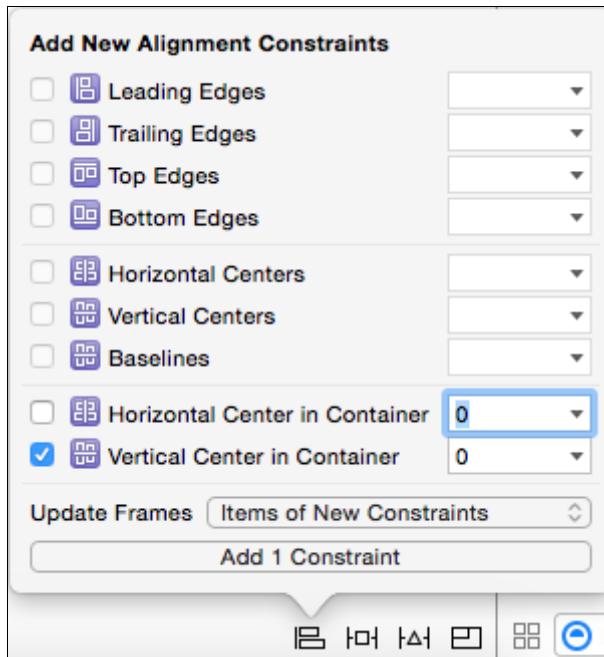


- Check Height and set the constant to **44**

Make sure Update Frames is set to **Items of New Constraints** and then click **Add 3 Constraints**:



Finally, click the **Align** button, tick **Vertical Center in Container**, change Update Frames to **Items of New Constraints** and click **Add 1 Constraint**:



Your cell should now look like the following:





Open **InspirationCell.swift** from the **Views** group, and add the following outlet just below the others:

```
@IBOutlet private weak var titleLabel: UILabel!
```

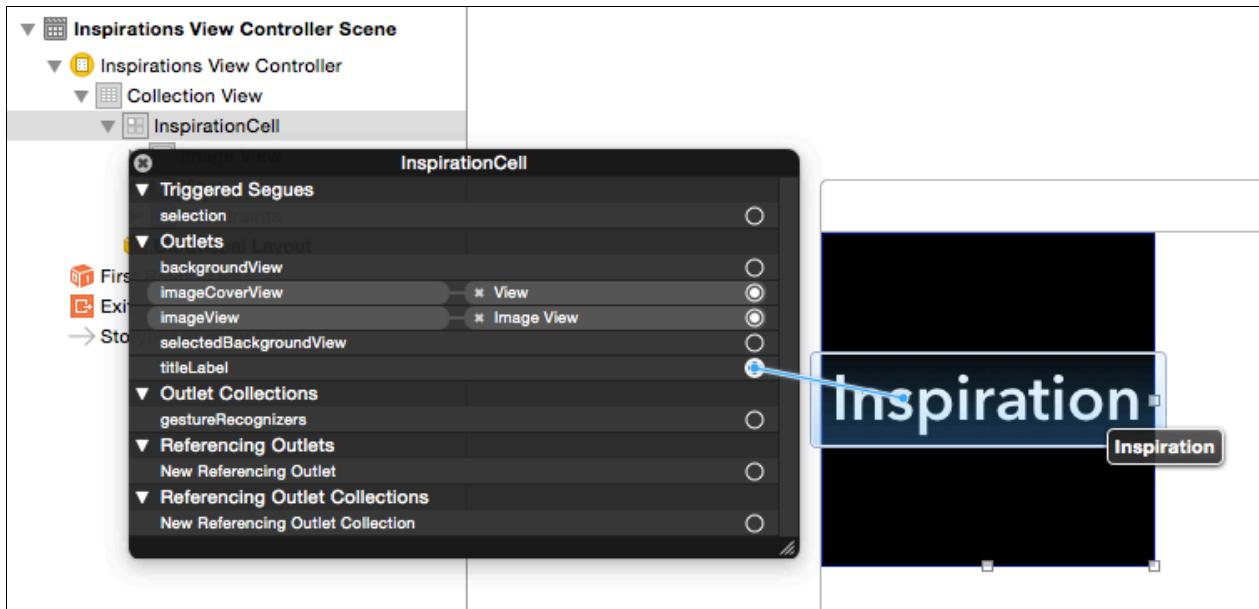
This will be used to set the text of the label to the title of the corresponding session when the `inspiration` property is set.

Now add the following to the bottom of the `if` block inside the `didSet` observer for the `inspiration` property:

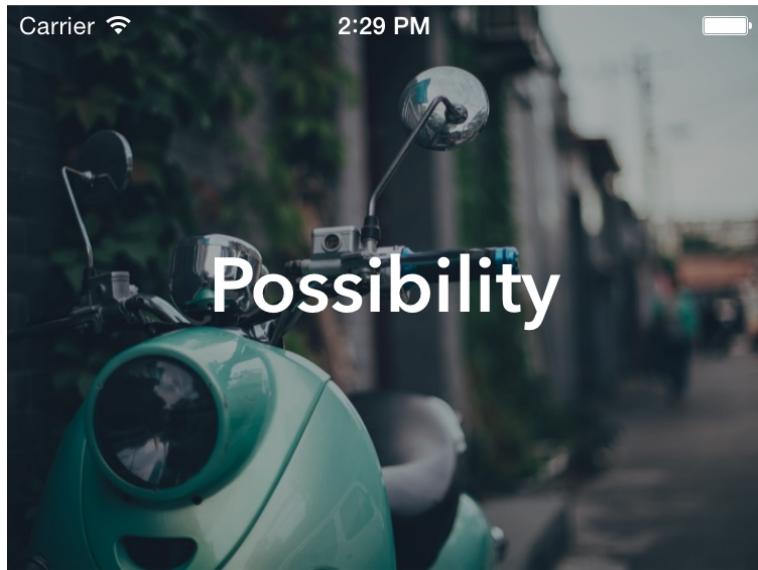
```
titleLabel.text = inspiration.title
```

This simply makes sure the text of the label is updated each time the value of the property changes.

Jump back to **Main.storyboard** and right-click on **InspirationCell** in the Document Outline to invoke the connections popup. Drag from `titleLabel` to the label you created earlier to connect the two:



Build and run. You'll see the session titles are now displayed:



Time to make them scale as the user scrolls!

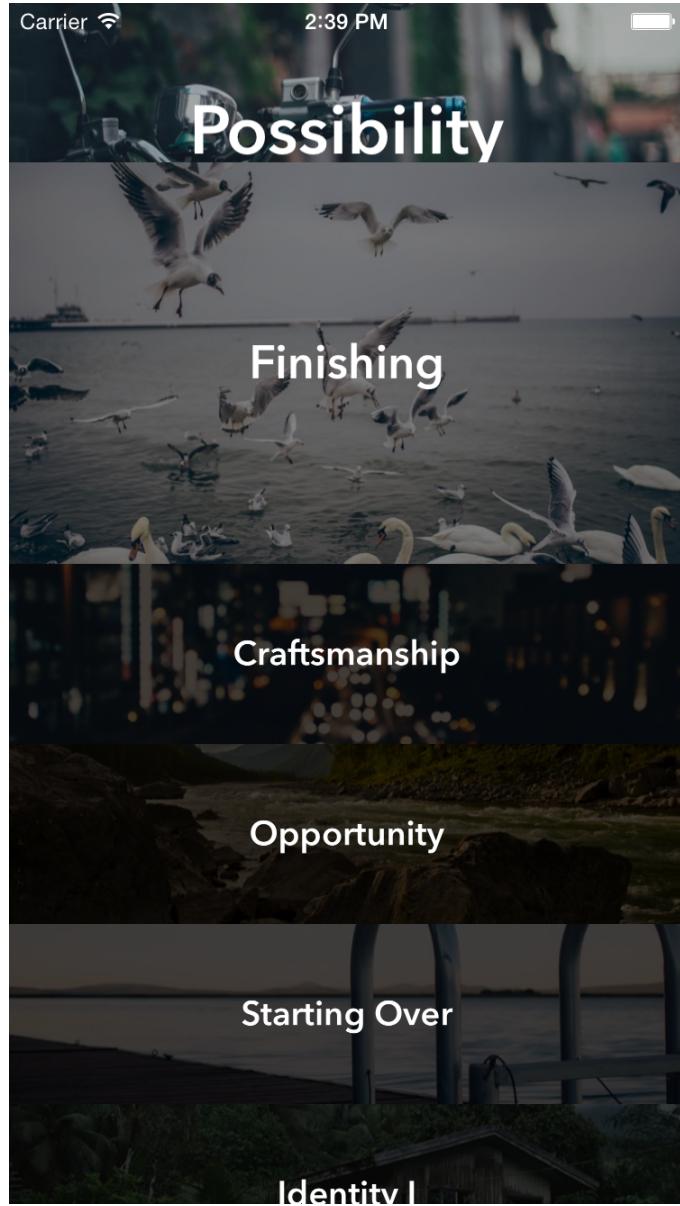
Open **InspirationCell.swift** and add the following to the bottom of `applyLayoutAttributes(_:_)`:

```
let scale = max(delta, 0.5)
titleLabel.transform = CGAffineTransformMakeScale(scale, scale)
```

Here you create a constant that's the max of either `delta`, which remember is a value between 0 and 1, and 0.5 - you do this because you don't want the label to scale to less than half its full size. You then use `CGAffineTransformMakeScale(_:_:_:_)` to create a scaled transform, and set it on the label via its `transform` property.

Build and run. You'll see that the session title in the standard cells is half the size of the title in the featured cell, and that the label smoothly scales between the two sizes as a standard cell transitions into being the featured cell:





Now it's time to add the rest of the session details to the cell, and have them fade into view as the user scrolls.

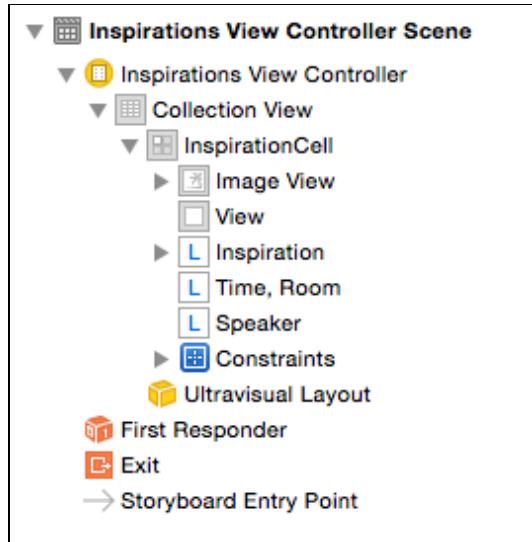
The devil is in the (session) details

Open **Main.storyboard** and drag two more **Labels** from the Object Library onto the cell in the Document Outline – once again, make sure they're created as siblings of the other views and not as children.

Use the Attributes inspector to set the text of the first label to "**Time, Room**" and the text of the second to "**Speaker**".

Your Document Outline should now look like the following:





Using the Attributes inspector, make the following changes to both of the new labels:

- Set Font to **Avenir Next**, with a Style of **Medium** and a Size of **17**
- Set Alignment to **Centre** (the middle button)

In the storyboard canvas drag both labels down so that they appear below the large Inspiration label. Select the “**Time, Room**” label and click the **Pin** button. Uncheck Constrain to margins if it’s checked, and then add the following layout constraints:

- Enable Leading and set the constant to **0**
- Enable Top and set the constraint to **0** - make sure it’s referencing **Inspiration** and not InspirationCell
- Enable Trailing and set the constant to **0**
- Check Height and set the constant to **21**

Make sure Update Frames is set to **Items of New Constraints** and then click **Add 4 Constraints**.

Now select the “**Speaker**” label and add the same layout constraints, except this time make sure the top space is referencing **Time, Room** and not Inspiration or InspirationCell.

Your cell should now look like the following:





Next, open InspirationCell.swift and add the following outlets, just below the others:

```
@IBOutlet private weak var timeAndRoomLabel: UILabel!
@IBOutlet private weak var speakerLabel: UILabel!
```

These will be used to set the time, room, and speaker details on their corresponding labels.

Now add the following to the bottom of the `if` block inside the `didSet` observer for the `inspiration` property:

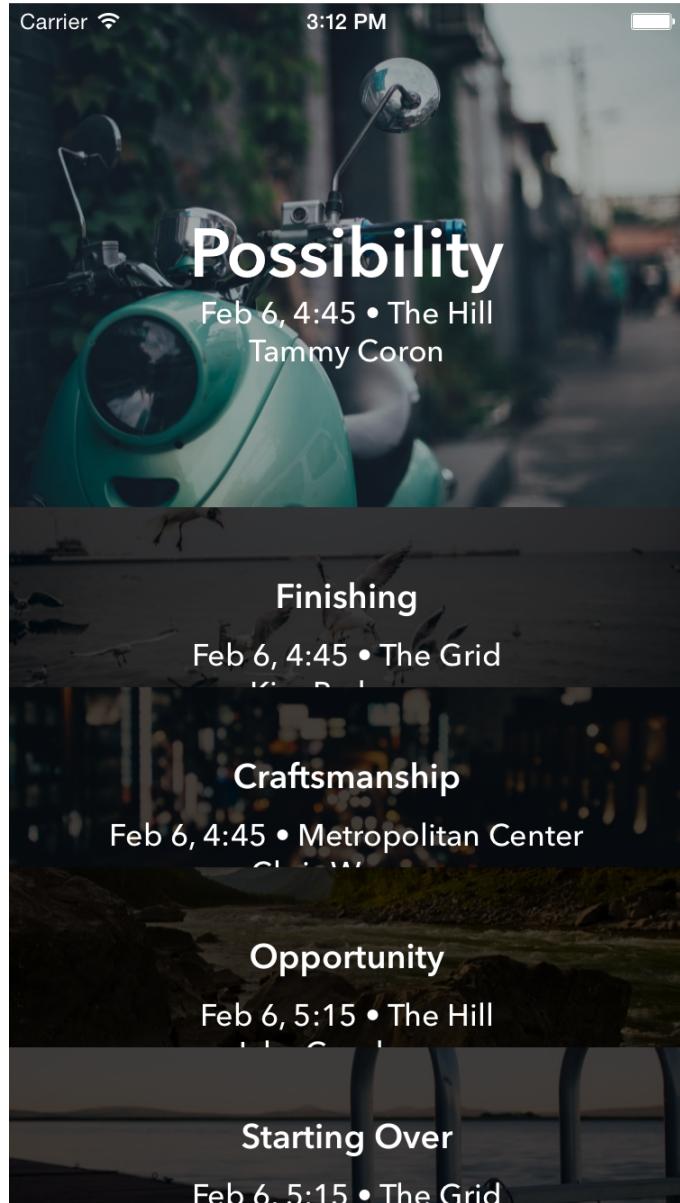
```
timeAndRoomLabel.text = inspiration.roomAndTime
speakerLabel.text = inspiration.speaker
```

This simply makes sure the two labels are updated each time the value of the property changes.

Jump back to **Main.storyboard** and right-click on **InspirationCell** in the Document Outline to invoke the connections popup. Drag from `timeAndRoomLabel` to the top label to connect them, and then drag from `speakerLabel` to the bottom label to connect those two.

Build and run. You'll see that the session details are now displayed as expected, but they don't look quite right in the standard cells:





You're going to fix that now!

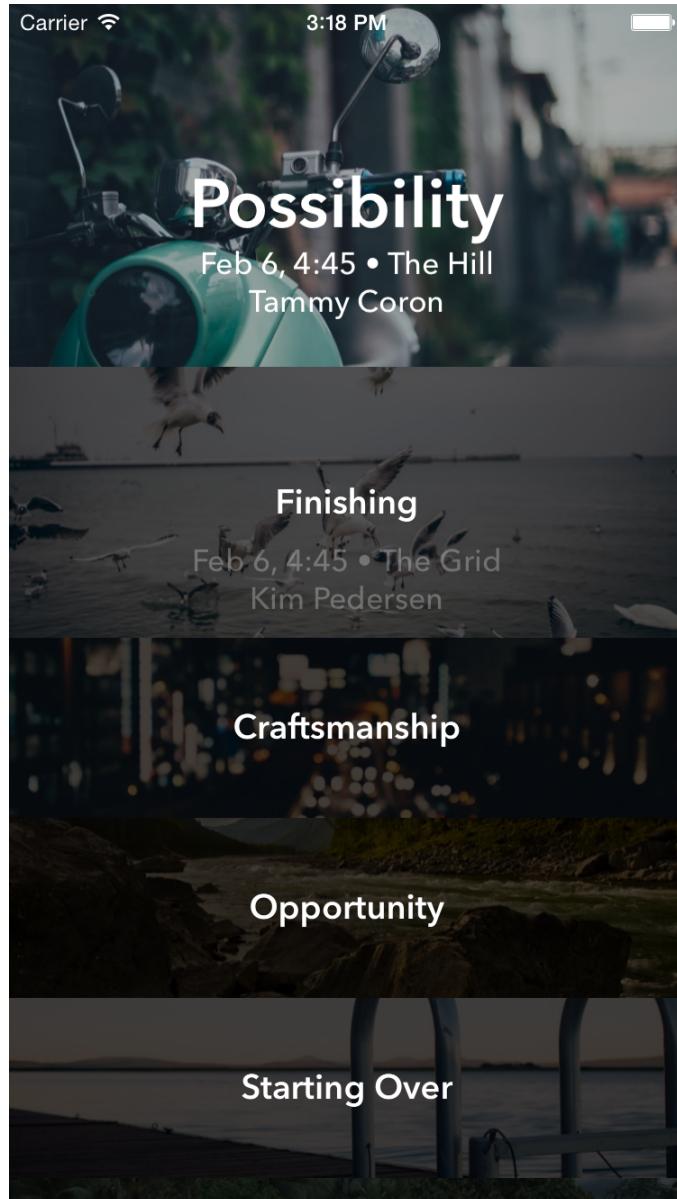
Find `applyLayoutAttributes(_:)` in **InspirationCell.swift** and add the following to the very bottom:

```
timeAndRoomLabel.alpha = delta  
speakerLabel.alpha = delta
```

Here you're simply setting the `alpha` property of each label to the `delta` variable which, if you remember, is a value between `0` and `1` and represents the progress of the cell transitioning to be the featured cell. By doing this you're making sure the session details aren't visible in standard cells, but fade in as each cell becomes the featured cell.



For the last time, build and run. You'll now see that session details aren't displayed on the standard cells, but do fade in as you scroll:



Congratulations! You now have a layout that both scales the session title and fades in the session details as each standard cell transitions into being the featured cell.

