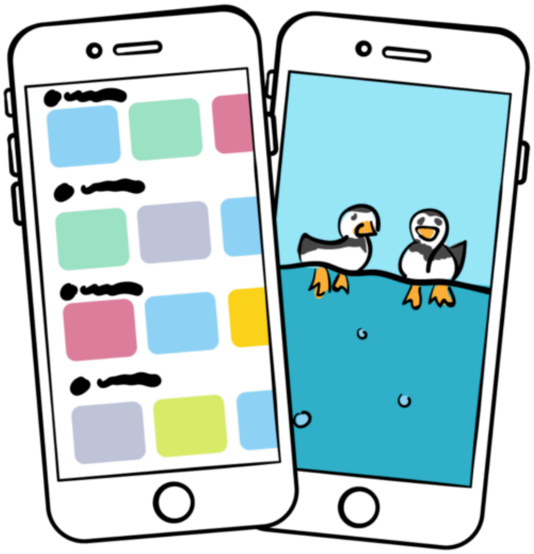
BEGINNING COLLECTION VIEWS



HANDS-ON CHALLENGES

Beginning Collection Views

Michael Briscoe

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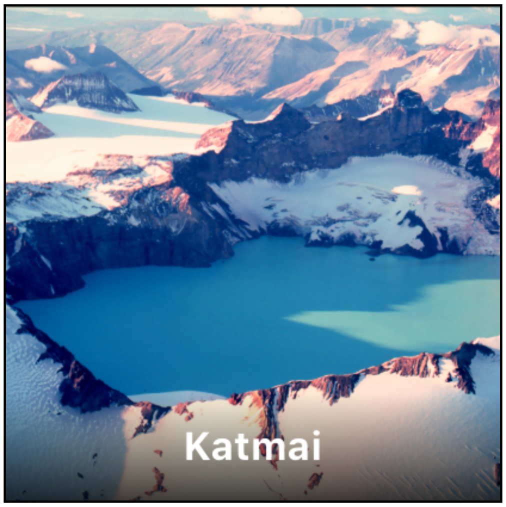
Challenge #3: Adding Additional Views

By Michael Briscoe

In the demo you created a custom cell, and added an image view which displays a thumbnail of the relevant national park. It looks pretty good as it is, but I bet you can do even better.

Your challenge this time is to add a label to the custom cell which displays the national park's name, as well as adding a gradient background behind the label so the caption can be read even on lighter backgrounds.

When you’re finished, the cell should look something like this:



> **Hint:** Have a dig around in the project folder and you might just come across a custom view class that you can use for the gradient background.

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

Solution

Adding the Gradient View

A ready-made Gradient View class has been provided for you in the project, so the first thing you need to do is import that into Xcode.

Right-click on the **Views** group and choose **Add Files to "ParksPicker"...**. In the dialog box that appears, choose the **GradientView.swift** file and then click **Add**.

This class is simply a UIView subclass that draws a gradient as it's background.

Next, open **ParkCell.swift** from the **Views** group, and add the following IBOutlet property declarations just below the existing one:

```
@IBOutlet private weak var gradientView: GradientView!
@IBOutlet private weak var captionLabel: UILabel!
```

Here you're simply adding two outlets; one for the gradient background view, and one for the caption label.

First, add this line to **prepareForReuse()**:

```
captionLabel.text = ""
```

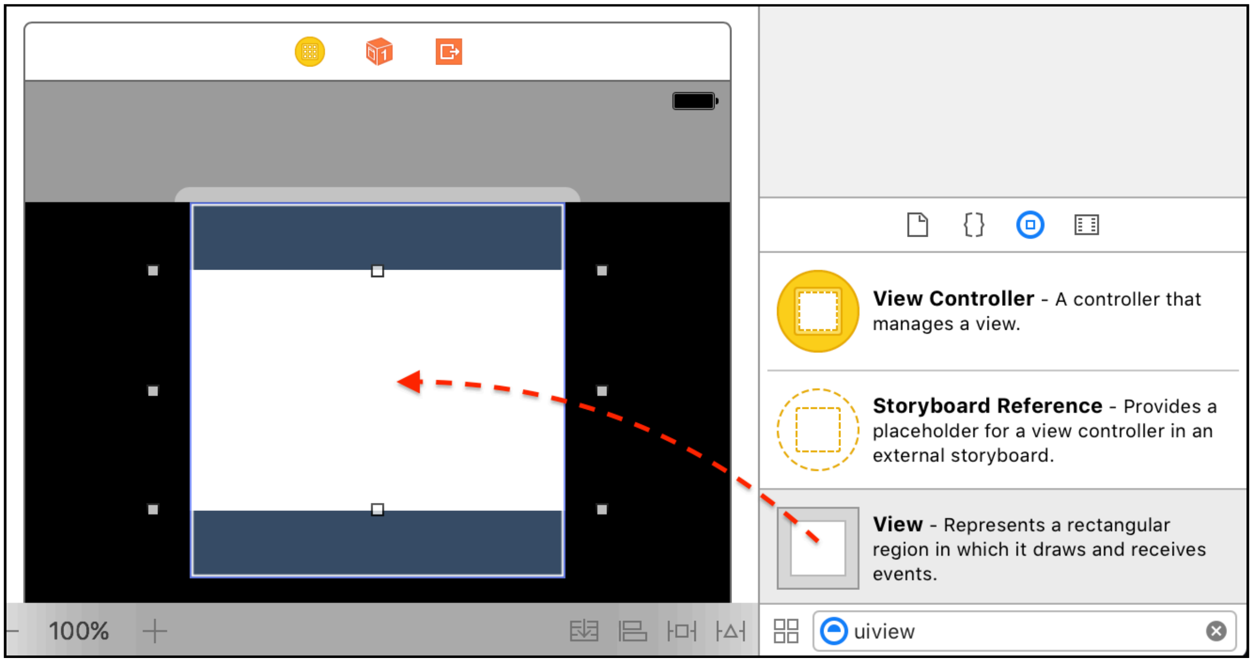
This will reset the label to blank just before resusing the cell.

The final change you need to make to ParkCell is to update the `park` property observer so that it sets the label's text to the park's photo name whenever it's set.

Add the following just below where you set the image on `parkImageView`:

```
captionLabel.text = nationalPark.photo
```

Now, open **Main.storyboard**. Find **View** in the **Object Library** and drag one onto the collection view cell. It appears quite near the bottom of the list, so it might be quicker for you to search by entering "uiview" in the search field.

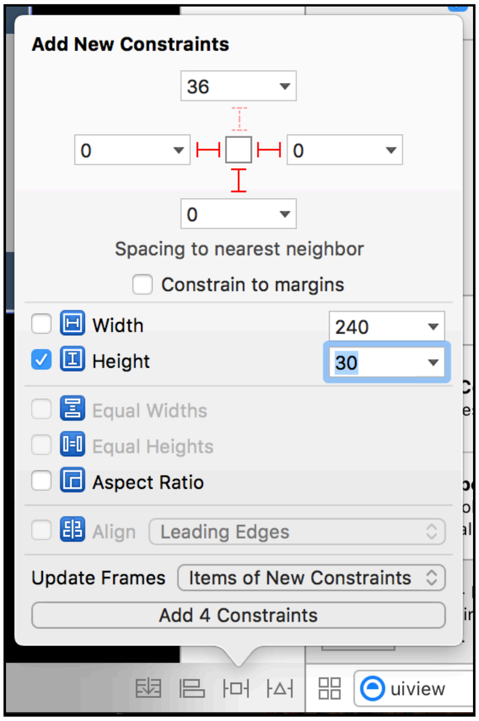


View Controller - A controller that manages a view.

Storyboard Reference - Provides a placeholder for a view controller in an external storyboard.

View - Represents a rectangular region in which it draws and receives events.

Select the view you just added, and in the Identity Inspector set the **Custom Class** to **GradientView**. Next, in the Attributes Inspector change the **Background** color to **Light Gray Color**. Finally, click the **Pin** button located at the bottom of the storyboard canvas and add the following constraints:



Add New Constraints

36

0 0

0

Spacing to nearest neighbor

□ Constrain to margins

□ Width 240

☑ Height 30

□ Equal Widths

□ Equal Heights

□ Aspect Ratio

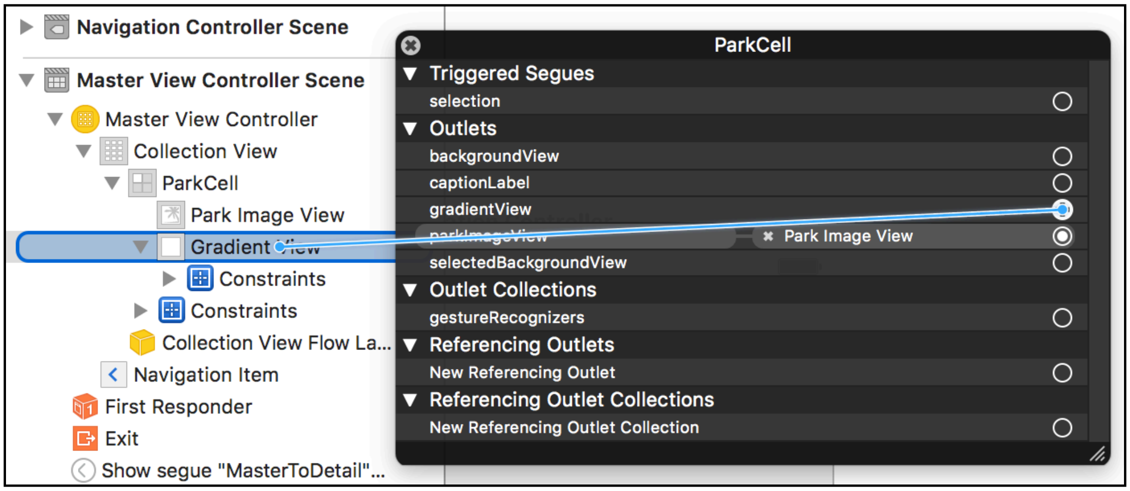
□ Align Leading Edges

Update Frames Items of New Constraints

Add 4 Constraints

Make sure you *uncheck* **Constrain to margins**, and select **Items of New Constraints** from the Update Frames menu. Click **Add 4 Constraints** to add the constraints.

Next, right-click on ParkCell in the Document Outline and drag from the **gradientView** outlet in the popup to the **Gradient View** object in the Document Outline to connect the two:

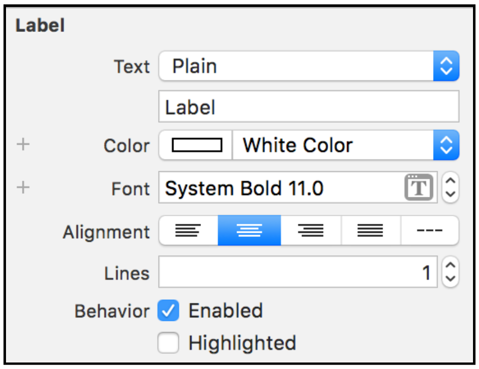


▶ Navigation Controller Scene
▼ Master View Controller Scene
▼ Master View Controller
▼ Collection View
▼ ParkCell
Park Image View
▼ Gradient View
▶ Constraints
▶ Constraints
Collection View Flow La...
Navigation Item
First Responder
Exit
Show segue "MasterToDetail"...

ParkCell
▼ Triggered Segues
selection ○
▼ Outlets
backgroundView ○
captionLabel ○
gradientView ●
parkImageView ✖ Park Image View ●
selectedBackgroundView ○
▼ Outlet Collections
gestureRecognizers ○
▼ Referencing Outlets
New Referencing Outlet ○
▼ Referencing Outlet Collections
New Referencing Outlet Collection ○

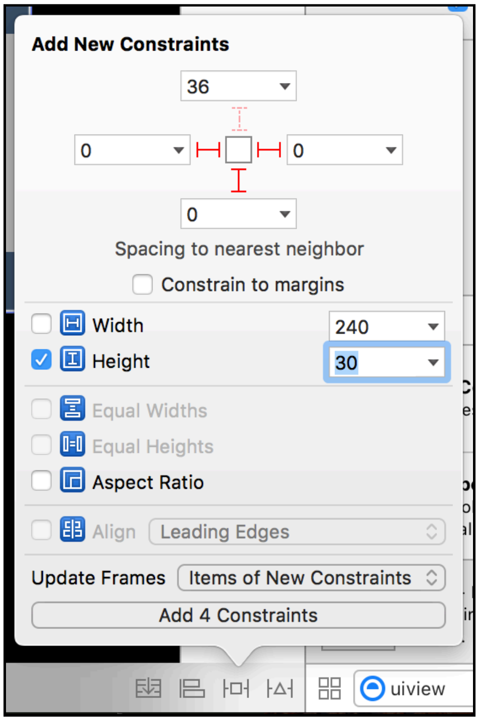
Adding the Label

With the gradient view in-place, the last thing to do is to add the caption label. Drag a **Label** from the Object Library onto the cell. Select it, and in the Attributes Inspector set its **Color** to **White Color**, its **Font** to System Bold 11.0, and its **Alignment** to **Center**:



Label
Text: Plain
Label
Color: White Color
Font: System Bold 11.0
Alignment: Center
Lines: 1
Behavior: ☑ Enabled
□ Highlighted

Then, again using the Pin button, add the following constraints:



Add New Constraints

36

0 ⊢□⊣ 0

0

Spacing to nearest neighbor

□ Constrain to margins

□ Width 240

☑ Height 30

□ Equal Widths

□ Equal Heights

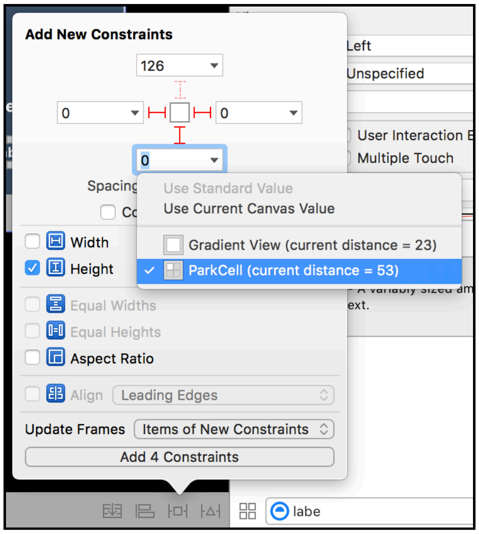
□ Aspect Ratio

□ Align Leading Edges

Update Frames Items of New Constraints

Add 4 Constraints

Make sure you *uncheck* **Constrain to margins**, and select **Items of New Constraints** from the Update Frames menu. For the bottom constraint, make sure it's relative to **ParkCell** and not Gradient View:



Add New Constraints

126

0 ⊢□⊣ 0

0

Use Standard Value

Use Current Canvas Value

□ Gradient View (current distance = 23)

✓ ParkCell (current distance = 53)

□ Width

☑ Height

□ Equal Widths

□ Equal Heights

□ Aspect Ratio

□ Align Leading Edges

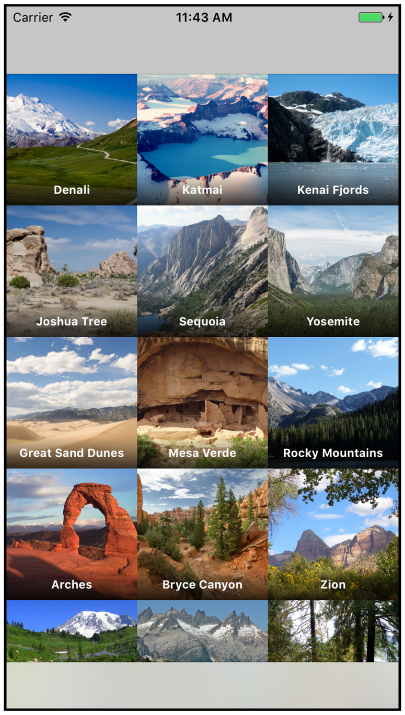
Update Frames Items of New Constraints

Add 4 Constraints

Click **Add 4 Constraints** to add the constraints.

The final step is to hook up the labels outlet. As you did before, right-click on the **ParkCell** in the Document Outline and drag from the **captionLabel** outlet in the popup to the **Label** object in the Document Outline to connect the two.

Build and run. You'll see that the cells now display the name associated with each national park, on top of a nice subtle gradient.



Carrier
11:43 AM
Denali
Katmai
Kenai Fjords
Joshua Tree
Sequoia
Yosemite
Great Sand Dunes
Mesa Verde
Rocky Mountains
Arches
Bryce Canyon
Zion