CALayers

Hands-on Challenges

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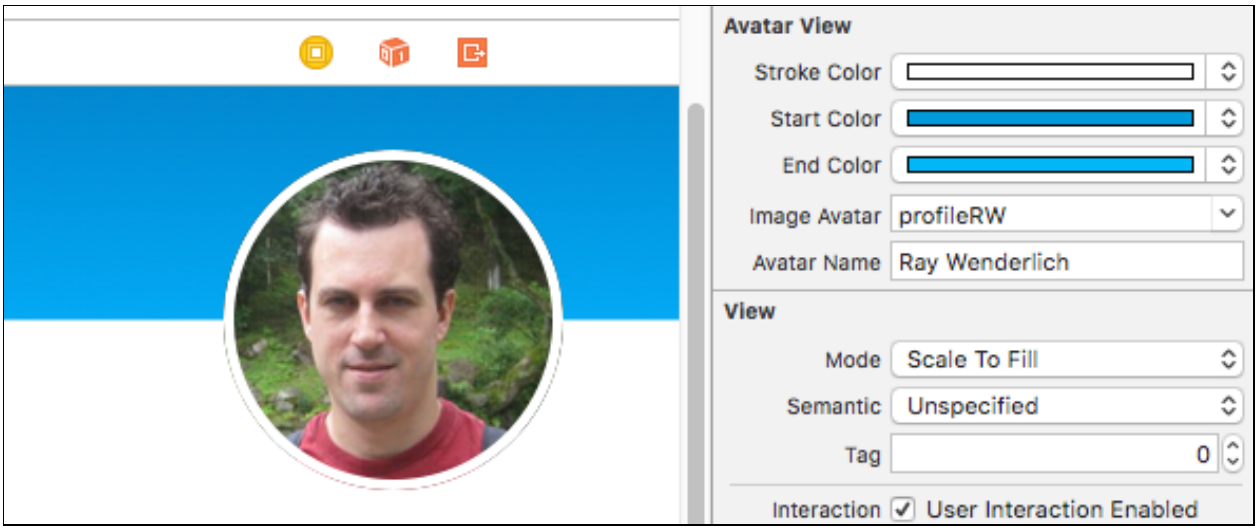
Challenge B: Configurable Gradient

Currently, the gradient is hard-coded to black and white. Wouldn't it be great if you could dynamically change those colors right from the Storyboard editor?



Thanks to a feature introduced in iOS 8 you can; and it's pretty easy. Let's see how it works.

Open **AvatarView.swift**. You'll notice that the class is marked with an `@IBDesignable` keyword:

```
@IBDesignable
class AvatarView: UIView {
```

This is why you are able to preview the control in the Storyboard editor. When `@IBDesignable` is set on a view, the Storyboard editor will attempt to render the view. It will call `prepareForInterfaceBuilder()` on startup, and it will call `layoutSubviews()` when the bounds change.

When you have an `@IBDesignable` view, you can easily set some properties as editable in the storyboard editor; just put the `@IBInspectable` tag beforehand. A few caveats:

- Only certain types are editable: `Int`, `CGFloat`, `Double`, `String`, `Bool`, `CGRect`, `CGSize`, `CGPoint`, `UIImage`, and `UIColor`.
- You must manually set the datatype for the property – you can't rely on implicit datatypes. In other words, this will **not** work (implicit typing):

```
@IBInspectable var strokeColor = UIColor.blackColor()
```

But this will work (explicit typing):

```
@IBInspectable var strokeColor: UIColor = UIColor.blackColor()
```

- Often you will want to set an observer when your property changes so you can reconfigure your layer properties appropriately.

Let's put this all together. Replace the definitions of `strokeColor`, `startColor`, and `endColor` with the following:

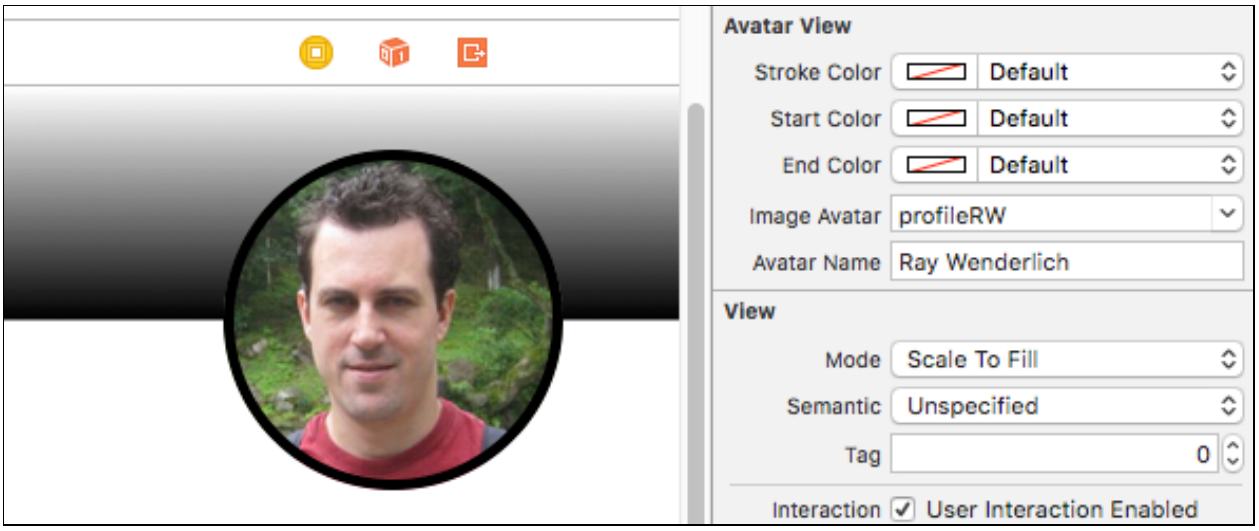
```
@IBInspectable var strokeColor: UIColor = UIColor.blackColor() {
  didSet {
    configure()
  }
}

@IBInspectable var startColor: UIColor = UIColor.whiteColor() {
  didSet {
    configure()
  }
}

@IBInspectable var endColor: UIColor = UIColor.blackColor() {
  didSet {
    configure()
  }
}
```

This makes each property a `var` (rather than `let`) and calls `configure()` whenever the property changes so the layer properties can be updated appropriately.

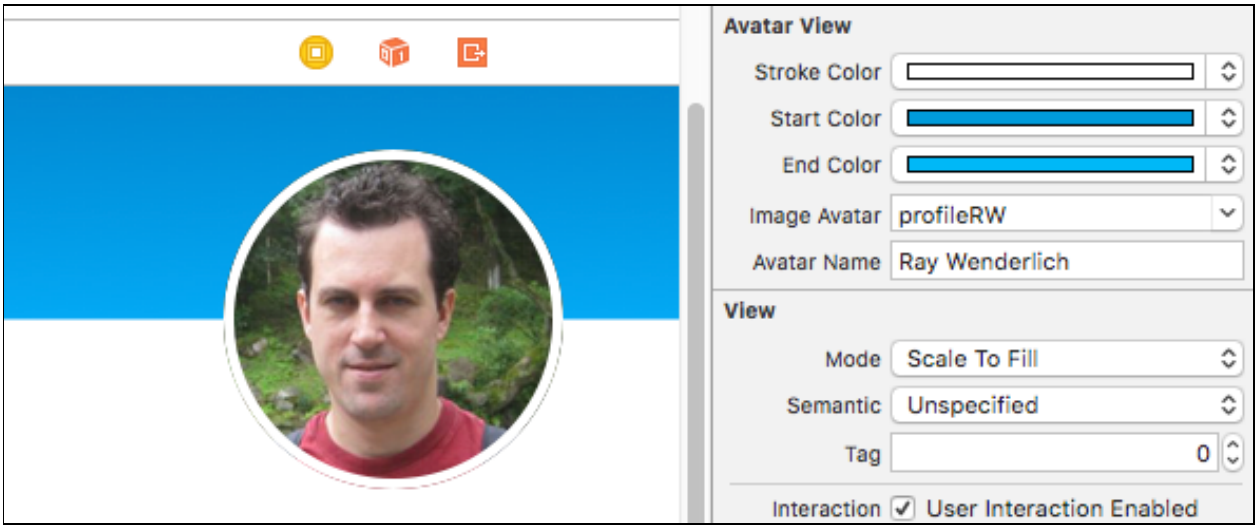
Then open **Main.storyboard**, click your avatar view, and in the Attributes Inspector you'll see new options to select the colors:



Use the controls to set the following colors:

- **Stroke Color**: #FFFFFF
- **Start Color**: #0288D1
- **End Color**: #03A9F4

You should then see the following:



Congrats! This makes it super handy to iterate on color choices.