

Intro to Object-Oriented Programming: Part 3

LAB 13aX: Color Bar Subclass

You're going to create a subclass.

Start with your **ArtStuff** project. The one that gradually changes the color of the color bar based on the time.

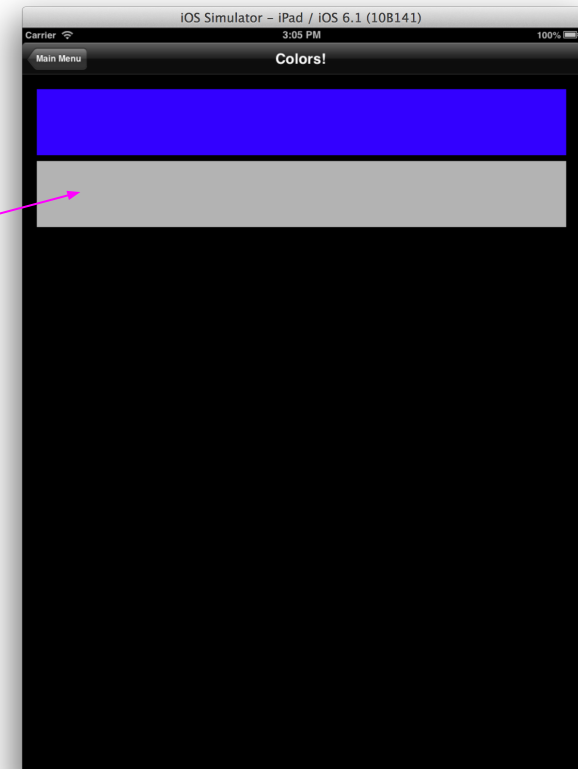
Make changes to that project.

We're going to create subclass of your **AAColorView** class. We'll call it **AAGrayscaleView**.

We'll use it to create another color bar that changes color every second. This one will go from black to white. Between black and white it will be a shade of gray.

I'm going to give you very little explicit instruction. I'm just going to tell you what the major goals are. You're on your own from there.

Please ask questions if you get stuck.



Do this.

1. Open your **ArtStuff** project in Xcode.
2. Run it to make sure it's working.
3. Create a new class:
 - a. **File > New > File...**
 - b. **Cocoa Touch > Objective-C Class > Next**
 - c. Class: **AAGrayscaleView**
 - d. Subclass of: **AAColorView**
 - e. **Next > Create**
4. Add a new method to your new **AAGrayscaleView** class' implementation (.m) file.
 - a. It looks like this: - (void)changeColorForPercentage:(CGFloat)percentage
5. Instead of using the [UIColor colorWithHue:...] method, use:
 - a. [UIColor colorWithWhite:percentage alpha:1.0]
6. Go to your Storyboard, and add a new UIView.
7. Place the new UIView under the color bar that's already there.
8. Select your new UIView in the Storyboard
9. Make the new UIView an instance of **AAGrayscaleView**.
 - a. Do this by selecting the new UIView and using the **Identity inspector** on the right-hand menu.
 - b. In the **Custom Class > Class** field, enter **AAGrayscaleView**
10. Open the **Assistant editor**
11. Connect the new **AAGrayscaleView** to the **@interface** section of the **AAColorsVC.m** file.
 - a. Use control drag and release in the **@interface** section.
 - b. Create a new outlet, named **grayscaleColorView**.
 - c. Change the type of the **grayscaleColorView** property from **AAGrayscaleColorView** to **AAColorView**.
 - i. It will hold a **AAGrayscaleColorView** object, but your code doesn't care as long as it is a subclass.
12. Update the new **grayscaleColorView** right after you update the existing **secondsColorView**:
 - a. **[self.grayscaleColorView changeColorForPercentage:percentage];**
13. Run your app
 - a. Remember, the new color bar starts black (at 0 seconds) and ends up white (at 59 seconds).

Now do this.

1. Add another subclass of AAColorView.
2. Call it whatever you like.
3. In your new subclass you must:
 - a. re-implement the method:
 - i. **- (void)changeColorForPercentage:(CGFloat)percentage**
 - b. change percentage to add 0.1 to it, then pass it to:
 - i. **CGFloat newPercentage = percentage + 0.1;**
 - ii. **[super changeColorForPercentage:newPercentage];**
 - iii. Use a conditional to check if newPercentage is greater than 1.0, if it is then subtract 1.0 from it
 1. You always want newPercentage to be from 0.0 to 1.0
 2. If you're confused about this, ask Jordan, or me.
 3. Hint: **if (newPercentage > 1.0) {**
 - a. **newPercentage = newPercentage - 1.0;**
 - b. **}**
4. Add a third color bar.
5. Have it use the new class.
6. Run your app and see a third color bar. It should be just ahead of your first color bar.

Finally, GitHub

1. Open the GitHub app
2. Select your ArtStuff project repo
3. **Commit** your changes, using a sensible **Commit summary** message
4. **Sync** your changes to GitHub
5. Verify they are on GitHub.com
6. Send me an email, so I can go take a look.

If you get stuck...

Tell me. And, think of these kittens.

