

Views & Animation

OVERVIEW

Date Due: Thursday, April 1st by 11:59 p.m. EST. ✧ **Value:** 40 points

Features

We are going to have some fun with view animations. This project focuses on views, drawing and view animation. Besides more practice writing custom views, you will learn to do simple touch processing and coordinated animations.

This application, let's call it "Animatron" has the following features:

- Scrolling Banner
 - Animation: A banner scrolls across the screen, pauses in the middle, then slides up as it disappears
 - Repeating: The scrolling action repeats infinitely. Each time new text (of different lengths) is used
 - Drawing: The text is displayed on top of a custom background
 - Fit: The background banner should resize as necessary to fit all of your text.
- Touch Rings
 - Touch Handling: In response to a touch, draw a "touch ring" at the touch location. Handle multiple touches, and continue adding rings as the user's fingers move around the screen.
 - Animation: The rings "pulse" for a short bit, and then fade away
- Structure
 - View-based application
 - Only UIView, or UIView subclasses written by you are allowed (eg. no UILabel, UIImageView, etc...)

You will be given the touch ring image, and the banner background image.

Grading

At a minimum, you are expected to implement the features outlined above.

Have fun with this and add any bells and whistles you want to! For example, the demo app tries to add something fun. Initially, it will display the touch rings in a fixed location, but will make it drift towards the next touch that comes along. The demo app also tracks the max number of touch rings ever displayed and shows that value in the banner text each time a new high is reached. Explain the features you added in a README file. **Value:** up to 10 points

NOTES

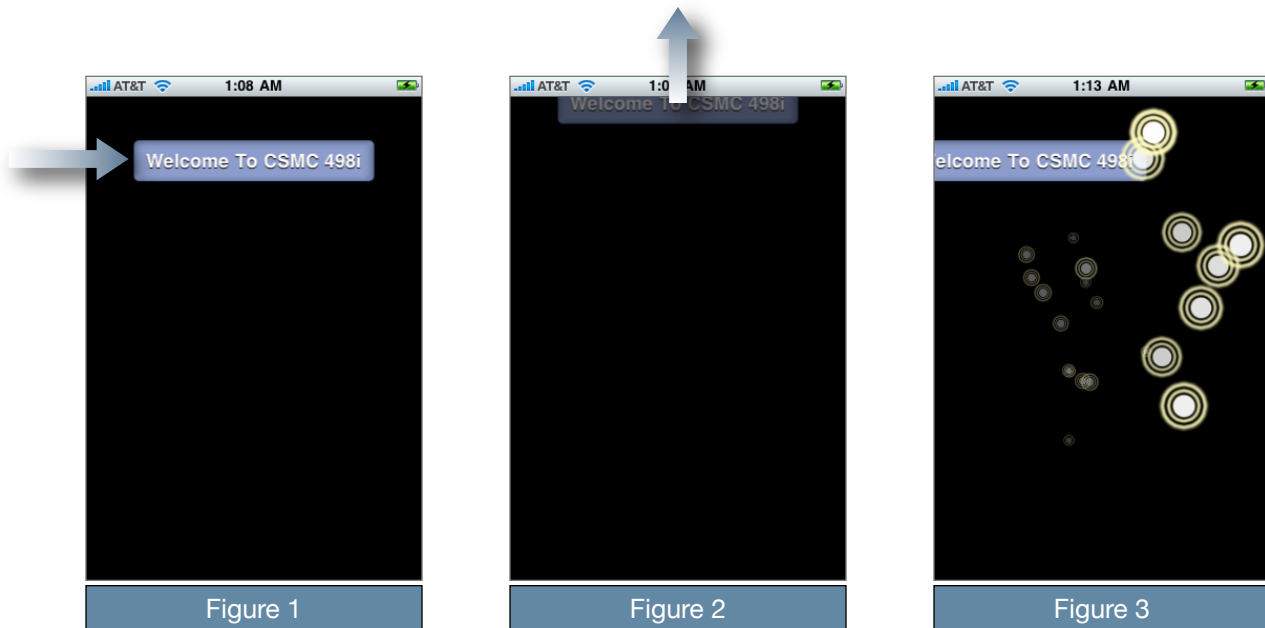


Figure 1 shows the banner view starting from an offscreen location, and scrolling into the middle of the screen. The banner's background comes from `LabelBackground.png`. After pausing for a short delay, Figure 2 shows it ascending off the top of the screen fading out as it goes. After another short delay this process repeats, starting at Figure 1 again. Each time the loop starts, the text should change. The demo application uses 3 strings of varying length.

Figure 3 shows tap events being displayed as touch rings. For each touch processed, a view displaying the `TouchRing.png` is inserted into the view hierarchy. The touch ring pulses by animating from an alpha of 1.0 to 0.2 and a scale factor of 1.0 to 0.2 and back again. The animation repeats 3 times, stopping at the small size, and then removing the view from the window.

Miscellaneous

- Project resources: http://www.cs.umd.edu/class/spring2010/cmsc498i/files/labs/lab7_Animatron_resources.zip
- Demo app: http://www.cs.umd.edu/class/spring2010/cmsc498i/files/labs/lab7_Animatron_demo.zip
- The only views you may use in this project are an actual instance of `UIView`, or a subclass of `UIView` that you create
- Remember to release views that are no longer needed so your memory use doesn't get out of control
- In order to receive multiple touches, you need to tell `UIKit` you are multi-touch aware. We've seen this in lecture...
- You can draw everything you need using `UIColor`, `UIImage`, `NSString` (drawing additions) and `UIKit` based animations