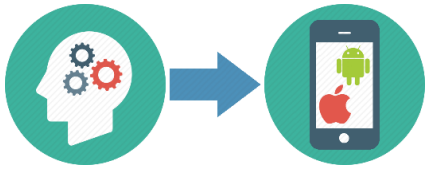
Mobile App Development

CS 4153



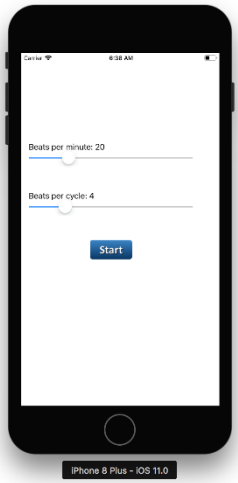
Weekly Assignment 07

Last updated: Oct 3, 2017 7:00 AM

This week, you will get a chance to work with timers and slider controls by writing a simple metronome app.

1. Create a new, Swift 4 project in Xcode 9 production. Name the project
   W07_ lastName_firstName
   where *lastName* is the part of your name that OSU considers to be your last name, and *firstName* is your first name.

2. The image at the right shows the app when it starts on an iPhone 8. Your app should run and look nice on any iPhone in portrait, left landscape, and right landscape orientations. (Feel free to include the upside down orientation, too.)



   - Though you can't see it in the image, there is a label with a large font centered above the two sliders. When the metronome is stopped, the label is blank, and when the metronome is running, the label displays the current beat number.
   - The upper slider represents the beats-per-minute for the metronome. When the app starts, it is set to 60 beats per minute. The slider's values range from 20 (at the left) to 200 (at the right).
   - The lower slider represents beats-per-cycle (e.g., beats per measure). When the app starts, it is set to 4 beats per cycle. The slider's values range from 1 (at the left) to 16 (at the right).
   - Above each slider is a label that indicates what that slider represents and the slider's current value.
   - Below the sliders is a button that starts and stops the metronome. The button displays one of two button images (one for "Start" and the other for "Stop"); for the demo app, these images were created using the website
     https://dabuttonfactory.com
     You also should create and use images for your button. You can create the button with Photoshop, the GIMP, the website above, or some other tool or website.

3. When the user taps the button while it is showing "Start", display "1" in the current beat label at the top of the screen, start a timer using the current beats-per-minute, limit the current beat label to the beats-per-cycle values, and change the button image to "Stop".

4. When the user taps the button while it is showing “Stop”, blank out the current beat label at the top of the screen, stop the timer, and change the button image back to “Start”.

5. If the user changes the value of one of the sliders while the metronome is running, stop the metronome, as described in step 4, above.

Usage Demonstration

- The *Apps & Resources* content section on the course BrightSpace page includes a short video labeled *Weekly 07* that demonstrates the expected operation of the metronome app, as described above.

General Notes

- Here is a short tutorial on using sliders. You can get more information from other online sources and our iOS textbook.

- The demonstration app depicted in the image and video is rather plain. Feel free to be creative! For example, you could add:
  - Creative fonts, colors, and layouts.
  - Color or animation to indicate accented beats.
  - Sound on each beat, so that the user does not have to look at the app when using it.

Submitting Your Solution

- Zip your project folder into a single file, go to the course BrightSpace site, navigate to the *Dropbox* page, and submit the zip file in the folder that corresponds to this assignment.