

## MAD Midterm

### Instructions:

You have an entire class period to develop the following app in iOS using Xcode. You can use any reference material you find helpful. It is suggested that you start at the first task and work down the list. The tasks are listed in an order such that they can be implemented after the previous ones. The goal of this midterm is to test your technical proficiency so focus on getting each task working. Add additional complexity and aesthetics at the end, time permitting. I highly suggest creating multiple versions of your project (duplicate your project folder in the Finder) so you have a version saved after each task. Post your completed project to github at the end of the midterm. (You can post more than 1 version if an earlier version worked but you want me to see the progress you made on a later non-working version).

Create a basic workout app based on the mock-up provided.

1. Calculate miles ran and calories burned during a workout (60 pts)
  - a. Label and textfield to enter workout time in minutes
    1. Make sure the Return key dismisses the keyboard
  - b. Button that calculates miles ran and calories burned
  - c. Label to display miles ran
  - d. Label to display calories burned
  - e. Assume average running pace of 10 minutes/mile (6 miles/hour)
  - f. Assume 600 calories/hour burned while running
2. Add an alert to your app if the workout time entered is under 30 minutes (15 pts)
  - a. Cancel action should dismiss the alert with no changes
  - b. OK action should dismiss the alert, change the workout time to 30 minutes, and perform the calculations.
3. Implement TWO of the following user interface controls:  
(Implementing an additional control will count for extra credit.)
  - a. Switch to show weekly times for miles and calories. Based on this control the miles and calories burned should change. (assume 5 workouts/week if not implementing the slider) 10 points
  - b. Slider to set number of workouts/week to be used in weekly calculations. Display this amount in a label. 5 points
  - c. Segmented control to chose workout type – run, bike, swim. Based on this control the total miles and calories burned should change. 10 points
    1. bike average speed is 4 minutes/mile (15 miles/hour), calories burned 510/hour
    2. swim average speed is 30 minutes/mile (2 miles/hour), calories burned 420/hour
4. Image view that changes the image based on workout type. 5 pts

Extra credit:

Use auto-layout and constraints so the user interface is adaptive to different size classes (device size and orientation). 10 pts

Add a second view controller to enter your name and email to receive information on suggested exercise guidelines. 15 pts

- Make sure the Return key dismisses the keyboard.
- Make sure the user can navigate back to the original view.
- Pass the data back to the first view and display it. (data does not need to be persistent)
- Make the name and email persistent across app launches. Extra 10 pts