

Washington State University
School of Electrical Engineering and Computer Science
Spring 2018

CptS 479 Mobile Application Development

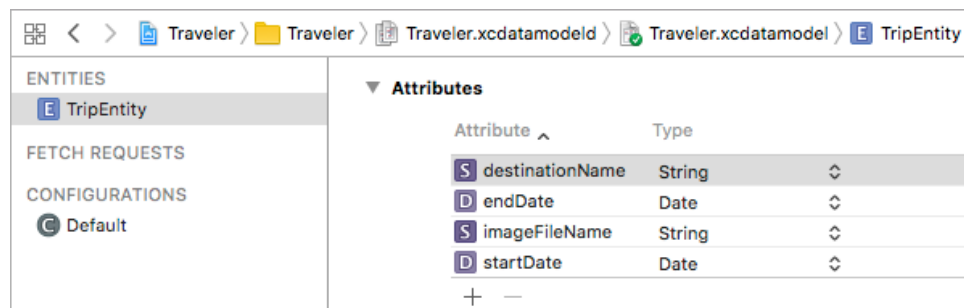
Homework 10

Due: April 3, 2018 (11:59pm)

General Instructions: Rename your project folder to be lastname-firstname. Create a compressed zip file of this entire directory and submit as an attachment under Content → Homework 10 for this course on the Blackboard Learn system by the above deadline. You may submit multiple times, but only the most recent entry submitted before the above deadline will be graded. Make sure all files are actually copied into the app directory and not just referenced elsewhere on your computer.

For this homework you will use CoreData to store Trip data from the Traveler app so that it persists even when the app is terminated. You will start with the app from HW5 augmented with the ability to load an image from the photo library, save it to the app's document directory in a unique file name, and then save this file name in the Trip data. I have posted an augmented solution to HW5 on Blackboard Learn under the "Homework 5" assignment that already includes all this functionality. So, you can start from that, or use your own solution to HW5 and add the image handling capability. Specifically,

1. Add the CoreData boilerplate code into your app. You can get this code by creating a new project in Xcode and checking the "Use Core Data" box on the "Choose options for your new project" screen. The code will be at the end of the AppDelegate.swift file. Don't forget to also include the saveContext line in the applicationWillTerminate method.
2. Create a Data Model corresponding to the Trip class. You can add a Data Model to your project by choosing File→New→File and choosing the "Data Model" file under "Core Data". The data model should consist of a single entity with attributes corresponding to the Trip class properties: destination name, start date, end date, image file name. Hint: Don't give the entity the same name as your Trip class, or Xcode will get confused. Below is a snapshot of my TripEntity.



3. In the Trip Table View Controller, add a method for fetching trips from CoreData. When the app starts, all the trips stored in CoreData should be loaded and displayed in the table view.
4. In the Trip Table View Controller, add a method for adding a new trip, which should result in adding the trip's data to CoreData. This method should be called upon returning from the Add Trip view after tapping Save.
5. In the Trip Table View Controller, add a method for deleting a trip. This method should be called when the user swipes-to-delete a trip in the table. You will need some way to uniquely identify the CoreData object corresponding to the deleted trip, so you can delete that object from CoreData. There are several ways to do this (I prefer the third method):
 - a. Fetch the object based on the image file name, which should be unique, and then delete it.
 - b. Generate and store a unique identifier with each trip, both in the Trip class and the TripEntity. Then fetch the object having this unique identifier and delete it.
 - c. Each object fetched from or inserted into CoreData has a unique object ID. You can store this ID in the Trip class (e.g., `trip.objectID = managedObject.objectID`). When you want to delete this trip, then you can use this ID to access the object directly using `self.managedObjectContext.object(with: trip.objectID)` and then delete it.
6. Do not initialize your app with any sample trips; the initial table of trips should be empty. But be sure to check that your app can add and delete trips, and that these changes persist.