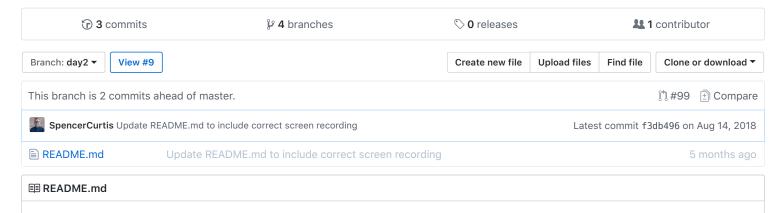
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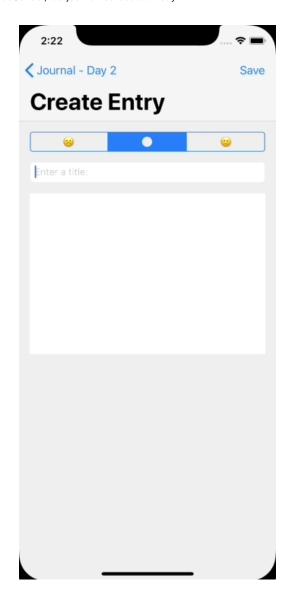


Journal (Core Data) Day 2

Introduction

Today you will take the Journal project you made yesterday and add more functionality to it. This will help you practice migrating data in Core Data and NSFetchedResultsController.

Please look at the screen recording below to know what the finished project should look like:



Instructions

Use the Journal project you made yesterday. Create a new branch called day2. When you finish today's instructions and go to make a pull request, be sure to select the original repository's day2 branch as the base branch, and your own day2 branch as the compare branch.

Part 1 - Mood Feature

Segmented Control Addition

In order to add the functionality seen in the screen recording, which is the ability to set your mood:

- 1. Add a UISegmentedControl to the EntryDetailViewController scene.
- 2. Make 3 segments.
- 3. Set each segment's title to a mood. In the example screen recording, it uses happy, sad, and neutral emoji for the three moods, but you can choose anything you want.
- 4. Make an outlet from the segmented control to the view controller's class file.

Data Model Updates and Migration

Now, you will update your Core Data model to include a property to hold the mood that the user selects on the segmented control.

- 1. Select your Core Data data model file. In the menu, select Editor -> Add Model Version (keep it the same name and click the "Finish" button.
- 2. In the new data model file, add a new attribute called mood . Set its type to be String .
- 3. Give the mood a default value. In the example, the default value is , the neutral emoji. Again, you can choose whichever 3 moods you want. Just make sure to set the default value of this attribute to one of them. This will allow the Entry objects that have been created before mood was added to have an initial value.
- 4. In the File Inspector with the data model file selected, set the current model version to the new model version you just created. (It should be something like Journal 2)
- 5. Now navigate to your "Entry+Convenience.swift" file where you have the Entry extension and convenience initializer.

 Update the initializer to include and property initialize the new mood property.
- 6. Update your "Create" EntryController method to call the updated Entry initializer
- 7. Update your "Update" EntryController method to include a mood String parameter so the entry's mood can also be updated.

You will need to update the EntryDetailViewController in order for the mood to get saved (or updated) to an entry.

- 1. In the EntryDetailViewController's save entry action (where you call the "Create" and "Update" CRUD methods), check which segment is selected and create a string constant that holds the corresponding mood.
 - NOTE: There are a few ways to go about this. You can use the selectedSegmentIndex propery of the segmented control to get the currently selected segment. From there, you can either create a conditional statement that will set the constant's value based on the selectedSegmentIndex. You could also use the titleForSegment(at: Int) method if the text in each segment is exactly what your moods are going to be.
 - Remember that you're dealing with strings here. Now would be a perfect time to create an enum with a case for each of your three moods. You can add string raw values to each case that holds the mood string. This will help you make sure that you're using the same three strings anywhere in the application.
- 2. Still in the save entry action, you will need to update the "Create" and "Update" method calls to include the mood string you just made.
- 3. In the updateViews() method, set the segmented control's selectedSegmentIndex based on the entry's mood property. Doing this programmatically will cause the segmented control have the entry's corresponding mood segment selected to the user.

At this point, take the time to test your project. Make sure that:

- Entries that you have saved before adding the mood property have a default mood value added to them.
- The segmented control in the detail view controller selects the correct mood of an entry that you view when seguing to it.
- Moods get saved correctly to entries, both newly created and updated.

Part 2 - NSFetchedResultsController Implementation

You will now implement an NSFetchedResultsController to manage displaying entries on and handling interactions with the table view.

EntryController

1. Delete or comment out the loadFromPersistentStore method, and the entries array in the EntryController. The

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fetched results controller will manage performing fetch requests and giving data to the table view now.

EntriesTableViewController

- 1. In the EntriesTableViewController, create a lazy stored property called fetchedResultsController. Its type should be NSFetchedResultsController<Entry>. It should be initialized using a closure. Inside the closure:
 - Create a fetch request from the Entry object.
 - Create a sort descriptor that will sort the entries based on their timestamp. This can be either ascending or descending depending on your preference.
 - Give the sort descriptor to the fetch request's sortDescriptors property. Note that this property's type is an array of sort descriptors, not a single one.
 - Create a constant that references your core data stack's mainContext .
 - Create a constant and initialize an NSFetchedResultsController using the fetch request and managed object context. For the sectionNameKeyPath , put "mood" (exactly how you spelled it in the data model file), and nil for cacheName .
 - Set this view controller class as the delegate of the fetched results controller. **NOTE:** Xcode will give you an error, but you will fix it in just a second.
 - Perform the fetch request using the fetched results controller
 - Return the fetched results controller.
- 2. Adopt the NSFetchedResultsControllerDelegate protocol in this view controller.
- 3. Add the following delegate methods to the table view controller:
 - controllerWillChangeContent .
 - controllerDidChangeContent .
 - didChange sectionInfo ... atSectionIndex .
 - didChange anObject ... at indexPath.

Remember that the implementation of these methods is going to be the same in most cases. You can use the implementations created in this morning's guided project.

Now you will change the UITableViewDataSource methods to look to the fetched results controller for information about how to set up the table view instead of the (no longer existing) entries array in the EntryController.

- 4. Add the numberOfSections(in tableView: ...) method if you don't have it already. This should use the number of sections in the fetched results controller's sections array.
- 5. In the numberOfRowsInSection, Again, use the section parameter to get the section currently being set up to return the numberOfObjects.
- 6. In the cellForRowAt , use the fetched results controller's object(at: IndexPath) method to get the correct entry corresponding to the cell instead of using the entries array in the `EntryController.
- 7. In the commit editingStyle, use the object(at: IndexPath) method again to get the correct entry to be deleted instead of using the entries array in the `EntryController.
- 8. Use the same object(at: IndexPath) method in the prepare(for segue: ...) method to get the correct entry instead of using the entries array in the `EntryController.

Go Further

Just like yesterday, try to solidify today's concepts by starting over and rewriting the project from where you started today. Or even better, try to write the entire project with both today and yesterday's content from scratch. Use these instructions as sparingly as possible to help you practice recall.

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