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**Mobile Designer & Developer**



Profile

CocoaHeads Shanghai 2017-08-31

"Simple techniques that make Xcode  
Storyboard more intuitive."

**CocoaHeads Shanghai#26 - 2017-02-23**

"Simple Techniques That Make Your User  
Interfaces More Flexible"

**CocoaHeads Shanghai#27 - 2017-04-27**

# Data Persistence

- UserDefaults
- Archive/Unarchive
- SQL
- Realm
- Hibernate
- ...

# Core Data

# What is Core Data?

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- ...a framework that you use to manage the model layer objects in your application. It provides generalized and automated solutions to common tasks associated with object life cycle and object graph management, including persistence...Core Data typically decreases by 50 to 70 percent the amount of code you write to support the model layer.... ——— Apple

**Are you using Core Data?**

# Are you using Core Data?

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- Learning Curve
- Potentially Tedious
- Design Data Model & Handle Migration



# “Simple Techniques to Get Started with Core Data”

# Note

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- Different ways to use Core Data by developers
- Easier since WWDC 2016
- One of the easiest ways
- More resources later in this keynote

# What will we do today?

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- Live Code Demo -> Ease your learning curve
- Show simple APIs -> Straightforward than tedious
- A bit about migration -> Play more, worry less

# What you might have known?

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- **UIKit Basic**

- UITableView
- UIStoryboard
- UINavigationController

- **Swift Basic**

- Protocol/Delegation
- Extension

# Preparation

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- Key terminologies
- Explain terminologies during Live Code Demo
- Code is on the GitHub

# Key Terminologies

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- NSPersistentContainer
- NSManagedObject
- Data Model Editor
- NSManagedObjectContext
- NSFetchedResultsController
- NSFetchedResultsControllerDelegate
- Lightweight Core Data Migration

# NSPersistentContainer

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- Simplifies the creation and management of the Core Data stack by handling the creation of the managed object model, persistent store coordinator and the managed object context.
- Used to be tedious code when install Core Data

# NSManagedObject

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- A generic class that implements all the basic behavior required of a Core Data model object.



# Core Data Model Editor

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- A graphical tool in Xcode to configure Data Model

# NSManagedObjectContext

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- An object representing a single object space or scratch pad that you use to fetch, create, and save managed objects.
- Changes to managed objects are held in memory until that context is saved.
- A single managed object instance exists in one and only one context.
- Multiple copies of an object can exist in different contexts.
- Thus an object is unique to a particular context.

# NSFetchedResultsController

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- A controller that you use to manage the results of a Core Data fetch request and display data to the user.

# NSFetchedResultsControllerDelegate

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- A delegate protocol that describes the methods that will be called by the associated fetched results controller when the fetch results have changed.

# Lightweight Core Data Migration

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- Potential Crash when changing Data Model between build version.
- Simple lines of code for automatic migration

# Ready to start

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Code is on GitHub

# Thanks for your support !

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**Thanks for your support !**

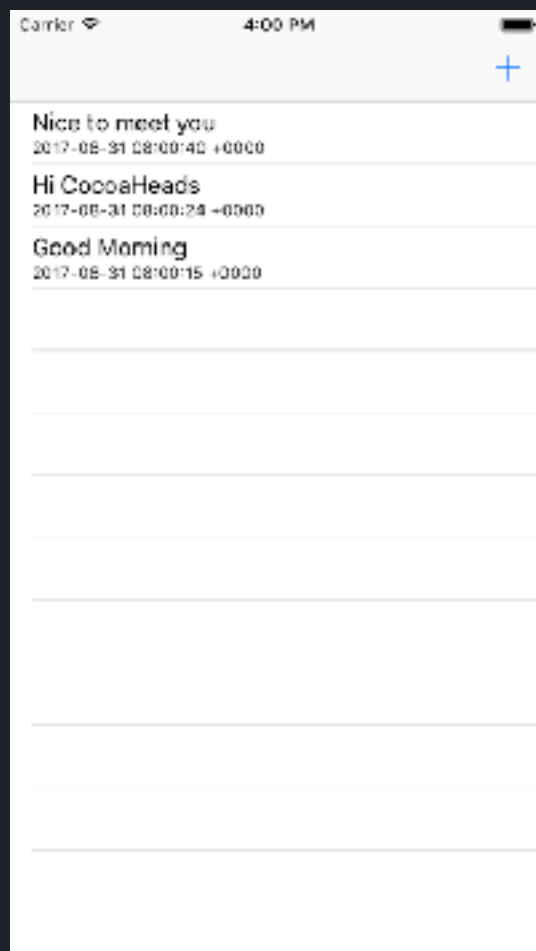
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**Antoine  
Cœur**

**Guanshan  
Liu**

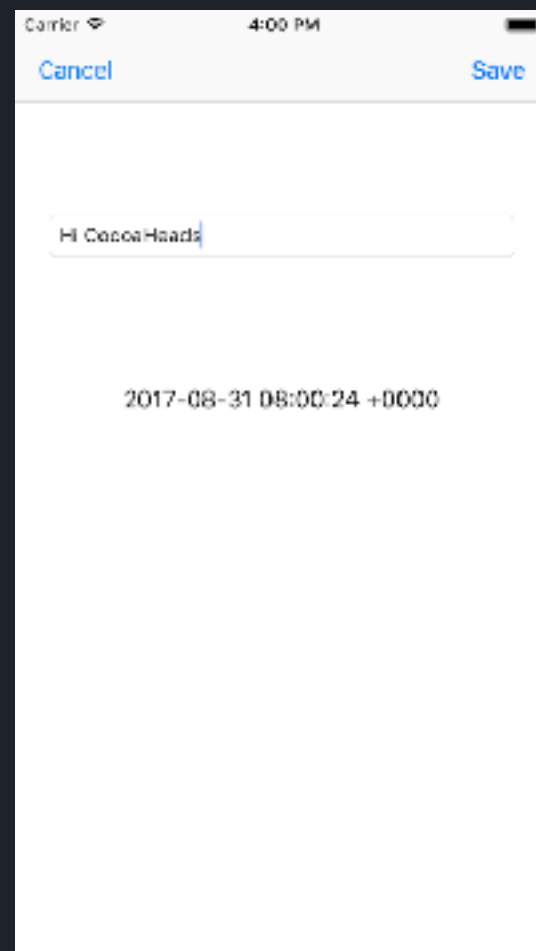


# Goal



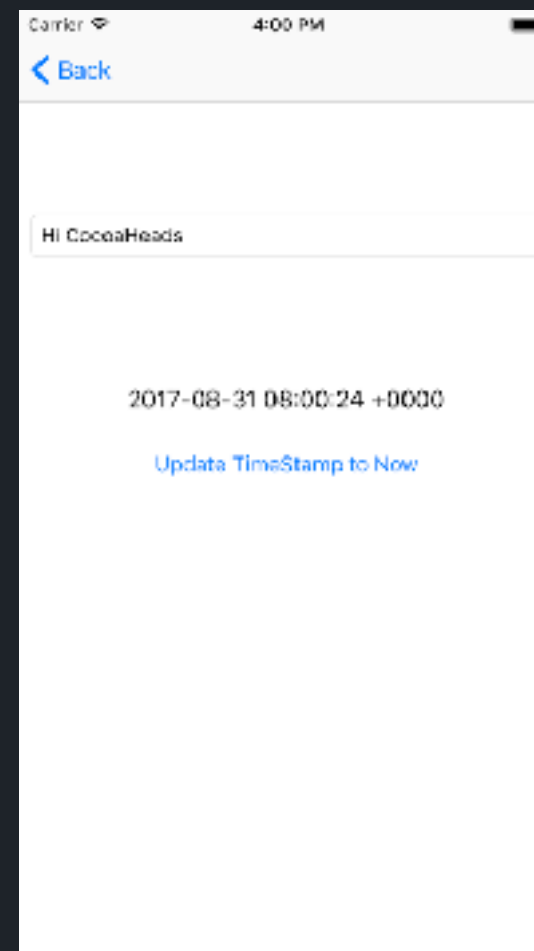
## A list of Notes

MainViewController



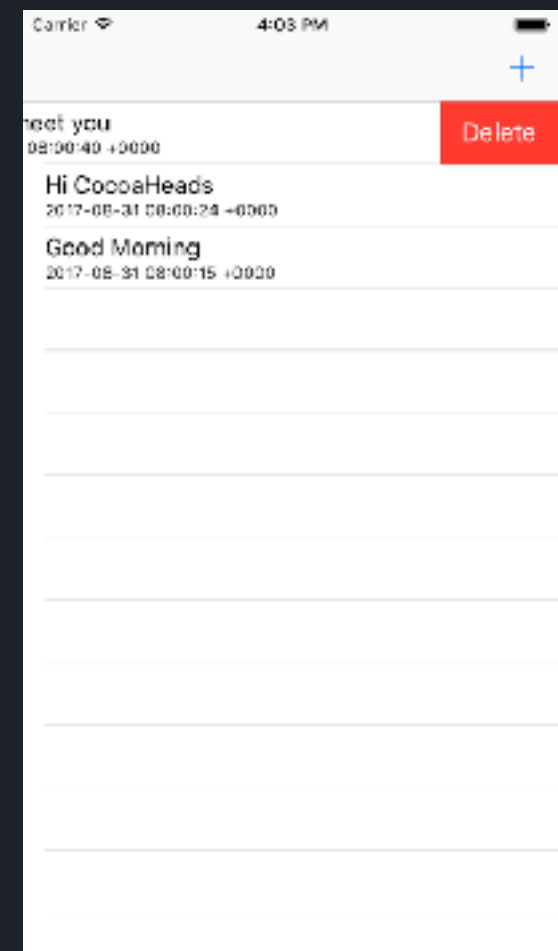
## Create a new Note

NewNoteViewController



## Edit a Note

EditNoteViewController



## Delete a Note

# Live Coding Demo

# Summary

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- Live Code Demo -> Ease your learning Curve
- Show simple APIs -> Straightforward than tedious
- A bit about migration -> Play more, worry less

# Resources

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- **Live Demo Code**

- <https://github.com/knightchang/codeDemo/tree/master/CoreData%20w-%20TableView>

- **Apple Developer Documentation Core Data**

- <https://developer.apple.com/documentation/coredata>

- **Core Data Programming Guide**

- <https://developer.apple.com/library/content/documentation/Cocoa/Conceptual/CoreData/index.html>

- **Core Data for iOS and macOS Enterprise Developers by Jon Bott**

- <https://www.lynda.com/iOS-tutorials/Core-Data-iOS-macOS-Enterprise-Developers/520219-2.html>

- **Core Data - from objc.io by Florian Kugler and Daniel Eggert**

- <https://www.objc.io/books/core-data/>

“Simple Techniques to Get  
Started with Core Data”

*Thank You*



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Portfolio