LIFECYCLES, CORE LOCATION

Programming Handheld Systems—iOS

TODAY

• View Controller lifecycle

• Core Location
VIEW CONTROLLER LIFECYCLE

• Why do we care?
  • easiest way to install hooks to your code

• Creation
  • from storyboard (nib, coder init)

• And then:
  • segue preparation
  • setting outlets
  • appearing and disappearing
  • setting bounds
  • geometry changes

CREATION

• from .xib (XML version of a .nib)
  • a way to create re-usable custom view
  • called either programatically or through code

• directly through code
• through storyboard

Rare.

override func awakeFromNib() {
    super.awakeFromNib()
    // very early
}
**viewDidLoad**

- Primary place to do app-specific setup
  - view is in place
    - good time to customize from model
  - start model
  - setup interactions across the MVC
- Bear in mind
  - outlets are set
  - bounds are not set
  - called only once

**viewWillAppear**

- right before view appears on screen
- update views to reflect changes since last seen
  - DB changes
  - running times
  - background progress
- called
  - possibly many times, even consecutively
  - view does not always appear
**viewDidAppear**

- view is on-screen
- UI tasks are now allowable
  - animations
  - GPS
  - timers
  - network fetches
- Why all this here instead of ViewWillAppear?
  - willAppear does not always lead to didAppear
  - don’t want to waste cycles

**viewWillDisappear**

- view still on-screen
  - but about to go
- wind things down
  - animations
  - GPS
  - timers
  - network fetches (maybe)
**VIEW DID DISAPPEAR**

- it’s gone
  - possibly de-allocate large, memory-intensive data
- used only rarely

**COMME CI, COMME CA**

![Diagram showing view lifecycle events](image)
**VIEW WILL LAYOUT SUB VIEWS**

- Top-level bounds about to change
  - might change representation of some views

- Caveats
  - doesn’t mean bounds actually will change
  - can be called often

- ViewDidLayoutSubviews()

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**VIEW WILL TRANSITION**

- Auto-rotation!

```swift
override func viewWillTransition(to size: CGSize, with coordinator: UIViewControllerTransitionCoordinator)
```

- size gives you new bounds

- animations
  - rotate done automatically
  - might interfere with an animation you have

  - alongsideTransition:
    ```swift
    func animate(alongsideTransition animation: ((UIViewControllerTransitionCoordinatorContext) -> Void)?, completion: ((UIViewControllerTransitionCoordinatorContext) -> Void)?) = nil) -> Bool
    ```
**Low Memory**

- Happens rarely, but
  - called when your app starts taking up more and more memory
  - might lead to your app being killed

- Most devices have huge amount of memory
  - you probably have a memory leak (memory cycle)

**Summary**

- startup
- awakeFromNib  (if from storyboard)
- segue prepare()
- outlets set
- viewDidLoad
- bounds set
- view will/did appear/disappear()
SEE THEM IN ACTION…