



Debugging iOS Apps

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What's up today

- Tools Inventory
- Runtime Debugging with Xcode
- GDB Commands
- Design Time & Compile Time Warnings
- Investigating Crash Reports
- Using Instruments
- Debugging Techniques for Core Data



Tools Inventory

- Sample App
- Xcode Debug Area
- Breakpoints
- GDB
- Analyzer & Clang
- Instruments



Reminder of Memory Management Rules

- You own any object you create (using a method whose name begins with “alloc”, “new”, “copy”, or “mutableCopy”)
- You can take ownership of an object using retain.
- You must relinquish ownership of objects you own when you’re finished with them.
- You must not relinquish ownership of an object you do not own.



Runtime Debugging with Xcode

- NSLog
- Stepping through code
 - Backtrace symbols
- Basic breakpoints
- Edit breakpoints



GDB Commands

- ◊ p / po
- ◊ call
- ◊ backtrace
- ◊ i args
- ◊ help
- ◊ Considerations for properties



Design Time & Compile Time Warnings

- ◊ Missing frameworks
- ◊ Missing header files
- ◊ Incorrect variable definitions
- ◊ Syntax errors
- ◊ CLang



Investigating Crash Reports

- Sources
 - Organizer
 - Users' Devices
 - iTunes Connect
- NSZombieEnabled



Using Instruments

- Allocations
- Memory leaks
- Attaching Xcode to running instance in Instruments
- Performance



Debugging Techniques for Core Data

- ◊ Updating the Model Definition
- ◊ Interrogate NSManagedObject properties with GDB
- ◊ SQLite tools
- ◊ PhoneDisk



Review

- ◊ Tools Inventory
- ◊ Runtime Debugging with Xcode
- ◊ GDB Commands
- ◊ Design Time & Compile Time Warnings
- ◊ Investigating Crash Reports
- ◊ Using Instruments
- ◊ Debugging Techniques for Core Data



Resources

- <https://github.com/danielnorton/CodeStockFeed>
- Xcode 4 User Guide: Debugging and Analyzing Your Code
- Memory Management Programming Guide
- Instruments User Guide
- GDB commands

(google search terms)