# Andrew M<sup>c</sup>Knight

## iOS Experience

Jan 2021 - Sentry, Senior iOS Developer, Remote, (FTE).

- Current Application observability platform
  - Stack: Objective-C++, Swift, XcodeGen, GitHub Actions, SauceLabs
  - Deliverables:
    - Sentry Cocoa SDK: mobile app crash and performance monitoring
    - Highlights:
      - Integrating Specto's profiling feature into Sentry's Cocoa SDK
      - User Feedback widget: first user-facing UI shipped in Sentry Cocoa SDK
      - Wrangled sample and demo apps for developers and Sales team
      - Numerous improvements to CI and build system

Nov 2019 - **Specto**, Senior iOS Developer, Remote, (FTE).

2021 • Stack: Objective-C++, Swift, Go, Python, Jinja, Bazel, XcodeGen, GitHub Actions

- January Mobile app profiling SDK with shared C++ core between iOS and Android
  - Deliverables: Mobile app profiling SDK with shared C++ core between iOS and Android, Python scripts to generate scoped Xcode projects from Bazel targets (pre 'rules-xcode')
  - Highlights:
    - Python scripts to generate scoped Xcode projects from Bazel targets (pre 'rules-xcode')
    - Acquired by Sentry in December 2020

Jan 2019 - Rightpoint Consulting, Senior iOS Developer, Remote, (Contract-to-Perm).

- Oct 2019 Security-focused app and SDK (NDA)
  - Stack: Swift, SwiftGen, SwiftLint, Sourcery, CircleCI, Postman, Browserstack, Countly

Jan – Apr 121nexus, iOS Developer, Remote, (Contract).

- Medical inventory management app/SDK with barcode/QR scanning
- Stack: Swift, AVFoundation, OpenCV, Firebase, cocoapods-keys, AWS
- Highlights:
  - Replaced application UI and networking with their new SDK
  - Reimplemented major area of app with new UI and platform API
  - Added crash reporting (Crashlytics) and logging (XCGLogging)
  - Augmented and documented analytics (Firebase)
  - Assisted launches via iTunes (121 Scan) and another internal enterprise app

Dec 2016 – Layer, iOS Developer, Remote, (FTE).

- Jul 2017 In-App Messaging SDK
  - Stack: C/ObjC/Swift, CocoaPods, OCMock, Specta/Expecta, Jenkins, Rails, Thrift, WebSockets/SPDY,
  - Deliverables: ObjC SDKs for data and UI components, an embeddable app layer and fully-functional sample app
  - Highlights:
    - Rearchitected test suite to separate unit tests from integration/end-to-end tests
    - Helped streamline developer environment configuration (Rake, Gems, CocoaPods and git submodules)
    - Migrated old SPDY/Thrift architecture to WebSockets with rewritten Thrift specs
    - Implemented new auth and transport layer using TransitionKit

Apr 2015 – **Twitter**, Software Engineer, Cambridge, MA, (FTE).

- Dec 2016 Mobile app crash reporting and analytics
  - Stack: C/ObjC/Swift, Java/Scala/Clojure, Rails, React/Coffeescript, Storm/Heron, Cascading/Scalding, Graphite, Vertica/Zeppelin, Beanstalk/Kafka, Redis/Cassandra, AWS, TeamCity, Chef, Protobuf
  - Deliverables: Crashlytics/Fabric SDKs, Mac app and command line tools, front- and back-end maintenance and analytics, Unity iOS support
  - Highlights:
    - Streamlined build and release processes with TeamCity agents deployed via Chef
    - Added Bitcode and tvOS compatibility to SDKs
    - Standardized config of all Xcode projects and released the open source FABConfig
    - Maintenance of backend lambda architecture with on-call rotations
    - Pioneered new backend feature to cross-reference common crashes across apps and present developers with suggested fixes

### Jan – Apr MC10, iOS Developer, Cambridge, MA, (FTE).

• Companion iOS app for wearable peripheral with BTLE link

• Stack: ObjC/Swift, CoreBluetooth, Android

### • Highlights:

- Moved all app/demo code into Git repos, no previous SCM
- Architected SDK and app codebases from the ground up
- Built out greenfield app, in beta testing on my exit
- Set up continuous integration and deployment with TeamCity and Fabric
- Assisted adoption of Agile processes

### Jul 2013 - Raizlabs Consulting, iOS Developer, Boston, MA, (FTE).

Dec 2014 • Stack: ObjC/Swift, Jenkins, TeamCity

### • Deliverables:

- Care.com: service seeker/provider matching (4 months)
  - iOS 7 redesign, with perspective zoom effect for a horizontally paged scroll view
  - Dynamic UI generation from server-supplied data
- B&H Photo: e-commerce (5 months)
  - Custom parallactic scrolling of table view headers
  - · Push notifications with deep linking
- UniFirst: interactive enterprise sales catalog on iPad (8 months)
  - Drag and drop editing of clothing selections, with PDF report generation
- Invaluable: realtime high-end auction platform on iPad (1 month)
  - Paging of API result display in table/collection views

### Oct 2012 – **ODU Systems Lab**, R&D projects, Norfolk, VA, (Student Intern).

### May 2013 • Deliverables:

- ChirpXM: location based social networking app (defunct)
- Prototyped EMR iPad app for CHKD

### • Highlights:

- Supervised two foreign exchange students
- Facetime with onsite clients

### Aug 2012 - Old Dominion University, Undergraduate capstone project, Norfolk, VA, (Seminar).

May 2013 • Stack: ObjC, OpenEars, MapQuest

### • Highlights:

- Co-lead of 7 member team
- 4 presentations given to visiting professors and industry executives
- Sole developer of iOS component of total solution
- Highest scoring project!

- Nov 2011 Insight Therapeutics, Lead iOS Developer, Norfolk, VA & Remote, (Contract).
  - Current Stack: ObjC/Swift, MessageUI, Storyboards, CoreGraphics, CoreData, FMDB, SQLite, SSZipArchive, RNCryptor, cocoapods-keys, Trello, BitBucket
    - Deliverables:
      - ClotRx & DementiaRx: reference e-pamphlets
        - · Hybrid app with WKWebView
        - · Searchable, bookmarkable HTML content extracted from PDFs
        - · Interactive clinical surveys, print/email report generation
      - Antibiotic Kinetics: antibiotic dosage calculator
        - · Ported from another developer's preexisting Android app
      - eConsent: HIPAA-compliant informed consent app for clinical trials
        - · Interactive quiz-based presentation of study details
        - · Signature collection and export to PDF
        - · Interface with backend API to upload finished consents
    - Multiple releases and design iterations of all apps

### Teaching and Presentations

- May 2018 iOSDevCampCO, Colloquial Swift (45 min), Colorado Springs, CO.
  - Presented findings from Colloquial Swift personal project (see entry in previous section)
- Jun 2017 CocoaHeads Boston, UIViewController Decomposition and UI Reuse (20 min), MIT, Cambridge, MA.
  - Discussing strategies to separate responsibilities from UIViewControllers and a library of reusable UI components, e.g. animated transparent modal presentation with a close button
- Jan 2017 Boston Algorithms Meetup, HyperLogLog (20 min), Twitter, Cambridge, MA.
  - Helped organized this initial meeting of the group
  - Covered the theoretical workings of the HyperLogLog algorithm, with a copresenter giving a working demostration
- Jul 2016 Girls Who Code, iOS Dev Session, Twitter, Cambridge, MA.
  - Part of GWC summer internship covering programming first principles to full-stack style development
  - Designed and led iOS session where we built a Flappy Bird clone, introducing them to Xcode as an IDE, Interface Builder, Playgrounds and Swift
- Mar 2016 mDevCon, Command and NSOperation (45 min), Amsterdam, NL.
  - Delivered presentation on the Command software design pattern, and NSOperation
  - Introduced subclasses we open sourced at Crashlytics for asynchronous and compound operations
  - Previously delivered at a lunchtime tech talk at Twitter, Cambridge, MA (Nov 2015) and CocoaHeads Boston meetup, MIT, Cambridge, MA (Dec 2015)
- Oct 2015 NeighborNest, Web Dev Session, Twitter, San Francisco, CA.
  - Community program to help advocate technology literacy
  - Assisted in session where students worked on a Twitter clone, teaching functional programming concepts,
    Javascript, and some front- and back- end concepts