Kurt Revis

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GitHub | Stack Overflow

SUMMARY

Senior/lead software engineer, specializing in developing iOS and Mac apps, but curious about everything.

EXPERIENCE AND HISTORY

Software Engineer (ICT5), Apple
August 2014 — November 2020

I was an engineer on UIKit, the UI framework that millions of iPhone, iPad, Apple Watch, Apple TV, and Mac Catalyst apps are built on.

As DRI ("Directly Responsible Individual") for Dark Mode in iOS 13: built prototypes, developed the implementation and API, worked with designers and engineers across the OS and the whole software organization, and presented it to external developers.

Also responsible for:

- Scrolling, including new trackpad/mouse support on iPad
- Drag and drop: API, implementation in apps, and the system infrastructure underneath
- Navigation and "split view" features in apps

Developer conference talks: *Build for iPad*, *Implementing Dark Mode on iOS*, *Introducing Drag and Drop*, *Making Apps Adaptive*, and *Getting Started with Multitasking on iPad in iOS 9*.

Staff Software Engineer, Twitter
July 2012 — August 2014

Lead engineer on the Twitter Cards canvas team.

Cards were a way of attaching dynamic interactive content to tweets, based on a custom markup language, with renderers integrated in the iOS, Android, and Web Twitter clients. Cards could:

- Present content like article summaries, photo galleries, and video players
- Show customized ads to promote mobile apps, generate leads, and promote products
- Handle app "deep links", App Store integration, and install tracking
- Present custom experiences for events like World Cup scores and Oscars polls
- Allow third parties to integrate into Twitter

I started by implementing the cards renderer for iOS, then also took responsibility for the markup language compiler in the backend, written in Scala.

Coordinated with the teams running the cards backend and publishing tools, and assisted internal and third-party teams using and creating cards. Helped set our feature roadmap and quarterly goals, planned new features, and wrote architecture documents for engineers and execs.

Senior Software Engineer, Avatron Software
October 2011 — July 2012

Developed a new iOS / Mac remote access product, Air Login.

On the Mac, implemented a system-level coordination daemon, per-user screen capture agent, and controller UI, all communicating via XPC. On iOS, prototyped the client app.

Senior Software Engineer, Apple
January 2003 — April 2010

Shipped several releases of Keynote, Pages, Numbers, and iWeb, on both Mac and iPad.

For iWork on iPad: Designed and implemented a Core Animation-based graphics and interaction framework. On a tight schedule, we built a revolutionary touch-based UI, pushing the limits of an untried OS and hardware, and shipped all three apps on time with the first iPad.

For iWork and iWeb on Mac: Was lead engineer for our graphics framework, built on OpenGL and Quartz. Designed and implemented new features, from high-level UI to low-level details, across the whole suite. While we were primarily responsible for graphics and interaction, I also had a hand in text layout and rendering, document storage, import/export, performance, and HTML widgets.

Led a team of three engineers. Wrote, triaged, analyzed, and fixed thousands of bug reports. Ran daily scrum meetings, estimated schedules, planned feature sets for releases, wrote prototypes and documentation, and filed for patents. Coordinated with design, engineering, QA, product management, and marketing.

Senior Software Engineer, The Omni Group
April 1998 — July 2001

Worked on a variety of Mac OS X and WebObjects projects, for consulting clients and for Omni directly.

- Developed a vertical-market store management app for Mac OS X, Salon Transcripts.
- Added features to, and fixed bugs in, the web browser OmniWeb (winner of two Apple Design Awards in 2001).
- For the online store of a major software company: cleaned up the architecture, upgraded code to modern standards, and fixed bugs.
- Wrote Mac OS X, Windows, and WebObjects applications that worked with relational databases (Oracle, FrontBase, DB2, and Sybase).

Software Engineer, Edmark
January 1996 — April 1998

Worked on parts of 3 original multimedia education titles for Mac and PC, using C++ and in-house cross-platform libraries. Collaborated with teams of programmers, artists, sound designers, and educators.

SKILLS

Expert in:

- iOS and Mac OS X app development
- Objective-C, Objective-C++, and C languages
- UIKit, Cocoa, AppKit, Quartz (Core Graphics), Core Animation, Grand Central Dispatch (GCD), XPC, Xcode
- Mac OS X and iOS performance tuning

Proficient in:

- Swift
- HTML, CSS, JavaScript, XML, Protocol Buffers, Thrift
- Mac OS X and iOS technologies: OpenGL, launchd, Core Text, CoreAudio, CoreMIDI
- UNIX programming and scripting
- Source control with Git, Subversion, and CVS

Familiar with:

- Scala, C++, Haskell, Java, Python, Ruby, SQL

PATENTS

Drag and drop for touchscreen devices, US Patent 10,444,976
Drag and drop for touchscreen devices, US Patent 10,705,713
Drag and drop for iOS.

Image mask interface, US Patent 8,209,632
A UI method for selecting a mask region for an image, used in iWork for iOS.

Web Widgets, US Patent 8,667,415
A method of including self-contained snippets of web content inside a website builder app, used in iWeb for Mac.

EDUCATION

California Institute of Technology (Caltech)
B.S., Engineering and Applied Science, concentration in Computer Science
June 1995

PERSONAL PROJECTS

MIDI Monitor and SysEx Librarian

Two open-source MIDI utility applications for Mac OS X. Useful for working with external MIDI devices (like synthesizers), troubleshooting, and testing apps and drivers.