Jay Koutavas

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This is my full-length resume, covering all the companies I've done work with. An "overview" resume is available here: https://heynow.com/jay/PlatformFullTime.pdf

OBJECTIVE

Seeking a principal software engineering consulting role in commercial software development

SUMMARY

Creative and self-motivated senior-level engineer with thirty years of experience team leading and design and development of commercial software applications and user interfaces.

OPERATING SYSTEMS

iOS, macOS, Android, Windows, Linux, Unix

TOOLS AND TECHNOLOGIES

Xcode, Cocoa, Interface Builder, JUCE, AWS, Cloud, RESTful Services, Core Graphics, Core Animation, Core Data, Core Image, Cocos2D, TrollTech Qt, Eclipse, STL, Microsoft Visual Studio, Angular, Node.js, Bluetooth, USB

LANGUAGES

Swift, Objective-C, C/C++, Java, JavaScript, TypeScript

EXPERIENCE

2017-2018: Industrial Intelligence, Atlanta, GA

I am lead engineer for Industrial Intelligence, working in "Smart Industry". I consult to the team on all technical matters and play a key role in assessing customers' needs.

I also am developing custom iOS and JavaScript front-end dashboards and back-ends for IIoT (Industrial internet of Things) applications for clients of Industrial Intelligence. JavaScript front-end work is being done using Angular 4 + Ionic 3's PWA (Progress Web App) UI framework.

I am the founder of Heynow Software and Heynow Games.

Heynow Software has developed and shipped many mobile and desktop apps for our customers. A highlights list of products we've worked on is viewable at Heynow's Software Portfolio. Additionally, Heynow Software has done a couple of its own products. One example: Heynow Software has had its SkyText utility app in the iOS App Store since March of 2009.

Heynow Games' mission is to develop and market casual games for iOS. Heynow Games has had its Wordstro word game app in the iOS App Store since December of 2013. Wordstro development was done in Objective C Cocos2D integrated with UIKit. The game makes good use of the Chipmunk 2D physics engine.

Current work on an upcoming Heynow Games title involves the use of JavaScript-based Cocos2D-x and JavaScript-based React and React Native frameworks.

Work I'm doing and have done in the role of lead engineer/consultant for Heynow Software

2015-2017: **Fishman**, Andover, MA.

After having played the tech lead/developer on the release of versions v1.0 - v1.2 of TriplePlay's software, I returned to Fishman in a consulting role, helping Fishman's engineering team do ongoing maintenance and release of TriplePlay v1.3 and v1.4.

2014-2016: **Fidelity Investments**, Merrimack, NH.

I worked as a principal iOS software engineer on Fidelity's personal investing iPhone and iPad apps. I worked closely with design, engineering, management, and QA teams in an Agile environment. I developed user interface elements and workflows, as well as played a key role in the design and implementation of their version 3.0 iOS architecture. Work was done in Objective C / Cocoa Touch and Swift. I also served as a mentor for junior members of the development team.

The iOS app has been very well received in the personal finance mobile community. Here is its App Store link.

2011-2013: **Fishman**, Andover, MA.

I worked as the principal desktop software engineer for the Fishman TriplePlay wireless MIDI guitar pickup. Work involved implementing the user interface components of the product and software/hardware/desktop integration. I also acted as team lead for the desktop software engineering. TriplePlay is implemented in C/C++ using the JUCE application framework deployed to macOS and Windows.

2010-2011: **Steve Jackson Games**, Austin, TX.

I ported Steve Jackson Game's "Munchkin Level Counter" app from iOS to Android. Work was done in close collaboration with Steve Jackson, ensuring a faithful reproduction of the original. This app can be found in the Android Market here.

2009-2012: **LSN Mobile**, Atlanta, GA.

I was lead iOS engineer for the news app Local News, was a popular free app that represented over 120 television news stations. Heynow has some press release information about the app here. I did most of the user interface implementation and XML middle-ware development, with help from Heynow's senior engineer and Heynow's UI designer. We all worked closely with LSN to ensure we had the right integration with their news aggregation server and created a pleasing user experience. The app was available to English and Spanish speaking users. There is also support for white label releases of the app, which there were over 120 apps for in the App Store. Local News had over 3 million downloads.

I wrote the initial version of the Android Local News app and then hired and lead a senior level Android developer who worked on subsequent releases. I instrumented the build-out procedure to do distribution of over 120 Local News affiliate station apps. Android Local News had over 1.1 million downloads.

In 2011, I designed and implemented the iPad version of Local News.

I also oversaw Heynow's development of the BlackBerry Local News app. It's available for download and has seen over 500,000 downloads.

2009: **Lil Bit Media**, NYC, NY.

I was lead iOS engineer for Lil Bit Media's "Who When Where" app. "Who When Where" social networking utility providing a novel means of organizing contacts. Working closely with customer our team designed the user interface for the product and then I implemented and delivered the application.

2009: **ZaZa Software**, Richboro, PA.

I ported ZaZa's ZaZaChat Alerter desktop help desk application from Windows to macOS. Work was done in Cocoa.

I also rebranded ZaZa Alerter as Live Help Now.

2008-2016: **Optek Music Systems, Inc.**, Reno, NV.

I was the team lead for rewriting Optek's "Fretlight M-Player" application for Macintosh. An application that uses MIDI music to drive fretboard LEDs in the customer's family of guitar products. The original M-Player exists as a BASIC application on Windows. I led one of my engineers in rewriting the application in Cocoa. My responsibilities were project management, UI implementation, and the Core Audio MIDI implementation. He handled the USB work and other related integration work for the guitar. We also rewrote their "Fretlight Improviser" and "Lesson Player" applications for macOS.

I developed Optek's GT Control guitar teaching application. GT Control is deployed to both macOS and Windows on the same code base using JUCE and C/C++.

I oversaw the maintenance of Optek's desktop and mobile software. I was involved my team with the design and implementation of the next major versions of Optek's software offerings. In January 2012, we released Fretlight Player for Macintosh, which ties video playback with MIDI for an even more immersive training experience for guitar students. I developed an iPad kiosk app that played videos describing the Fretlight guitar. The app was capable of being remotely updated. We also developed Chords and Scales app for both desktop and mobile. Work also was done on a prototype desktop/mobile app that linked the guitar with iTunes that shared a common JUCE-based code-base.

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I designed and developed the Fretlight Bluetooth/USB SDK. Work was done in C/C++ and Objective C. The SDK is capable of supporting wireless and wired Fretlight guitars on both iOS, macOS, and Windows platforms. https://fretlight.com/pages/get-the-fretlight-sdk

2007-2009: **Imikimi**, Lakewood, CA.

I ported Imikimi's popular Windows-based browser plug-in to macOS. Work was done in C/C++ using the Netscape "NPAPI" plug-in SDK. Technologies I used included: Apple's Core Image, Carbon Events, and PackageMaker.

I was the tech lead for development of a Adobe Flash (SWF) file exporter for Imikimi's image format. Work was done in C/C++. Heynow's senior engineer, James Hartnett, worked with me on this.

2006-2008: **Russound**, Newmarket, NH.

I and another Heynow Software engineer delivered the iBridge Bay macOS application for integrating Russound's "RNET" audio-visual home networked products with iTunes. Work was done in Cocoa, C/C++ and embedded systems. My responsibility was overall software designer/implementor and provided expert macOS user and development knowledge.

We also did work on major pieces of software for Russound's TSV-E5 Sphere 8.4" 800 x 600 Touch Screen LCD Controller, their next generation Web 2.0-based user interface. Work was based on JavaScript.

2005-2007: **Avid Technology**, Tewksbury MA.

I designed and implemented a significant portion of the user interface for the new Avid Interplay Assist application. A newsroom transcription logging and story editing application. I implemented the user interface using C/C++ and TrollTech's Qt application development framework.

I also have contributed my previous Avid expertise in refining features of the existing MediaComposer and Newscutter video/film editing applications.

2005-2007: **Jambo Networks**, Dallas, TX.

I wrote the macOS version of Jambo's social networking client application. The Windows client is implemented in C#. I implemented the macOS client in Cocoa. The Macintosh client takes advantage of numerous Apple technologies, including Bonjour, Bluetooth, and wireless networking. I had the opportunity to make the user interface shine on the Mac and Jambo has received very positive feedback from Mac users on its look and feel.

2005-2006: **Maven Networks**, Cambridge, MA.

I developed Windows and macOS download client applications that are branded by the OEM. This application has been deployed by Premiere Radio for the "Phil Hendrie Show" and for other radio talk shows as a means for paid subscribers to automatically receive the radio show as .mp3 files. The macOS application was done in Cocoa/Objective-C, the Windows application in MFC/C++. Common shared code was done in C++ using STL.

2004-2006: **Portalvideo**, Wellesley, MA.

I developed a Quicktime-based application for the encoding and uploading filmed interviews. Work includes development of custom Quicktime components for streaming media encryption. The core application was developed in C/C++ and run on both macOS and Windows. The Macintosh version is wrapped in Cocoa and the Windows version is wrapped in MFC.

2004: **iPhrase**, Bedford, MA.

I ported their Unix-based search engine to macOS. Work involved modifying Python scripts and porting a significant number of their C++-based sub-systems to Carbon.

2003-2004: **Raindance Communications**, Denver CO.

I was technical lead for the Macintosh version of their "K2" video and web based conferencing application. My work involved taking modules of the existing Windows client and making them cross-platform compilable as backend code as well as writing a Cocoa-based macOS user interface front end. Various features of the product were implemented as runtime loadable plugin bundles. I was responsible for all the user interface work and the architecture of this application.

2002: **Meeting Maker**, Waltham MA.

I was technical lead for the version 8.0 rewrite of their "Meeting Maker" calendar scheduling client application. I worked closely with the user interface designer, senior management, product management, and engineers. I implemented a cross-platform (Mac and Win) user interface using Metrowerks' PowerPlantXP (their cross-platform version of PowerPlant.)

I also designed and implemented a data model abstraction of their existing client/server code and integrated it with Python for product testing.

I also did work on fleshing out parts of PowerPlantXP in collaboration with Metrowerks.

2001: **DMOD** (Digital Media On Demand), Boston MA.

I played a key role in porting their "DMOD WorkSpace" version 1.0 client/server application from Windows to macOS. The application's features were faithfully ported to the Mac, and also sported additional features over its Windows counter-part. I was responsible for all the user interface work, the data model, and most of the application's framework. Work was done using CodeWarrior C++/PowerPlant.

2000-2001: **Artel Software**, Boston MA.

I was a senior engineer responsible for designing and implementing key user interface elements of Artel's Boris RED product. I played an important role in delivering user interface work for both version 2.0 and 2.1 of this product. Boris RED is a 3D compositing tool for creating special effects for digital video. My work was done using PowerPlant/C++ on both Macintosh and Windows platforms. I also did cross-platform Quicktime development for them.

1999-2000: **Viatech**, Natick MA.

I ported Viatech's eLicense SDK from Windows to Macintosh. This SDK provides developers with a means to easily add electronic software licensing to their applications. Work involved writing Macintosh-specific networking code, cryptography, and GUI development. Work was done in PowerPlant/C++.

1999: **Ice**, Waltham MA.

I developed a macOS application which utilizes the Ice's hardware board to do real-time transcoding of Avid's media formats. The application was implemented using PowerPlant.

I developed the user interface and framework for the version 1.0 release of Ice SDI Video. Runnable as both a stand alone macOS application and an Adobe After Effects plugin, Ice SDI Video provides broadcast quality QuickTime NTSC and PAL capture and print of video streams from/to serial decks using their video capture/playback hardware.

I implemented the user interface and application framework for their "ICEd Transcoder" application which allows transcoding of Avid Media Composer media files.

I improved Ice's OMF reader and writer QuickTime components and ported them to NT.

1998-1999: **Avid Sports**, Lowell MA.

I was lead developer for the version 4.0 release of SportsView, A macOS application which permits NFL and college football coaches to view game video footage and evaluate game data. Work was done using Metrowerks C/C++.

1998: **Avid Technology**, Tewksbury MA.

I helped integrate graphical file, OMF (Open Media Format), and QuickTime import/export support into their version 7.0 Media Composer product. Work was centered around closer integration of Avid products using OMF.

1997: **NetCentric**, Cambridge MA.

I ported their web-based FAX SDK from Windows to the Macintosh. Work involved adding Macintosh-specific threads and Open Transport network support.

1997: **Real Networks,** Seattle WA.

I added QuickTime 3.0 support to their existing "Vivo Producer" macOS product. released as "VivoActive VideoNow 3.0". Work included updating the PowerPlant application and updating their QuickTime decoders for both Macintosh and Windows. Work was done in PowerPlant/C++.

1997: **Vivo Software**, Waltham MA.

I did work on Vivo Producer -- a macOS and Windows application that generates streaming low latency audio/video files for the Web. I rapidly took their producer applications and converted them into Adobe Premiere Plugins. Work was done in CodeWarrior C++/PowerPlant and Microsoft Visual Studio C++/MFC.

I also ported Vivo's audio and video codecs to Linux, SGI Irix, DEC OSF, and IBM UNIX for use in Microsoft's Netshow for Unix 2.0 distribution. Work was done in GNU C.

1997: **Avid Technology**, Madison WI.

I delivered modifications to graphic import/export plugin modules for their Elastic Reality™ software product via a generalized interface referred to as "HIIP." Technologies involved include: OMF, QuickTime, Cineon, PNG, GIF, JPEG, FLIC, PICT, and other graphic file formats. Work was done with CodeWarrior C, C++, and PowerPlant.

1997: **Avid Technology**, Tewksbury MA.

I helped to complete Avid Cinema v1.0, a macOS-based video editing application which was bundled with Apple's Performa 6400 Macintosh release. I worked with Apple QuickTime technology and CodeWarrior C++ and PowerPlant.

1996: **ADP/ISS**, Billerica MA.

I ported their UNIX-based headline news gathering SDK (software development kit) to macOS. The SDK utilizes RPC (remote procedure calls) atop a TCP/IP socket interface. The port was executed using CodeWarrior C++ compiler using a sockets interface.

1996: **Information Technology Partners**, Framingham MA.

I developed a set of PowerBuilder objects which interfaced their PowerBuilder-based online product ordering application to Lotus cc:Mail.

1996: **FTP Software**, Andover MA.

I put together a suite of macOS internet applications, an installer program, and an online Web-based registration application for British Telecom. ported FTP's Windows-based registration app into a macOS helper app called by the MS Internet Explorer Web browser using CodeWarrior C++. I was responsible for all technical exchange between FTP Software and BT on this project.

I also served as a technical advisor to FTP Software's ISP Business Unit group.

Work I'm doing at my company Heynow Games

2011-present: **Heynow Games**, Windham, NH.

I am the iOS engineering and marketing lead for the Wordstro word game. Development was done in Objective C Cocos2D integrated with UIKit. The game makes good use of the Chipmunk 2D physics engine.

Work I've done prior to forming Heynow Software

1992-1996: **Avid Technology**, Tewksbury, MA.

Principal Software Engineer

I was lead engineer of a four member team that designed and implemented the Avid Media Server -- a digital video and audio record/playback/editing server application running over an ATM network on the SGI Challenge series UNIX (IRIX) platform.

- Designed and implemented key elements of the server (media record and playback)
- Designed and implemented the network components of the macOS-based client applications
- Implemented OMF (Open Media Framework)-based media file access for online and near-line storage
- Co-author of a patent for high speed media stream switching over the ATM network

Work was done with IRIX-based C and C++ compilers and Macintosh-based Think C++ compiler. The Avid MediaServer is now used in news stations world wide, broadcasting directly from hard disk to thousands of households daily.

Designed and implemented version 1.0 of the AvidNet point-to-point network - a high performance ATM-based point-to-point media transfer system for the Avid MediaComposer and AudioVision Macintosh applications. Early prototypes were implemented over TCP/IP. Work was done with Think C++ compiler.

Designed version 2.0 of the AvidNet point-to-point network. Version 2.0 addressed enhancements permitting collaborative story editing over the ATM network.

Developed various user interface elements for the version 5.0 release of the Avid MediaComposer for Macintosh - the industry leader in nonlinear video editing systems. Work was done with Think C++.

1987-1992: **Digital Equipment Corporation**, Littleton, MA.

Principal Software Engineer

I was lead engineer of a three member team that designed PathWorks Manager -- a Macintosh and MS-Windows based application for managing LanMan, NetWare, and AppleShare network file and print services. Played a leading role in the high-level design, user interface design and proof of concept prototype of this application. Work was done with Think C++ compiler.

I was technical lead for Mail for Macintosh, a Macintosh client application for the VMS mail server. Network connection was DECnet via Apple's communication toolbox. Responsibilities included "rescuing" the project from a failing contract developer, overseeing and working with a senior engineer to make rapid and effective improvements to the application's performance and its feature set. My efforts resulted in the product being successfully delivered to market on time. Work was done in MacApp 2.0 on MPW.

I was technical lead for the VAXshare file and print server -- a key component of the Apple/Digital PathWorks For Macintosh desktop integration product.

- Developed functional and design specifications
- Defined development priorities, tasks, and schedules
- Implemented portions of the VMS-based AFP and PAP servers
- Designed and implemented a VMS-based server management client
- Designed and implemented network protocol for managing the product from remote VAX, Macintosh, and DOS client platforms

Work was done on VMS C compiler and Macintosh-based Think C compiler.

I prototyped a UNIX-based print and file server on Apple's AUX operating system. Work was done under MPW C.

I invented, designed, and implemented a test development and execution environment for automated testing of PathWorks for DOS. Work was done under MSC and MASM.

1986-1987: **Honeywell-Bull**, Billerica, MA

Consultant

I developed test specifications for One Plus, a package of office automation products running on the Honeywell DPS level 6 series minicomputer. Work involved both component level and system level testing of the product. I worked closely with development groups to provide timely resolution of software faults. I designed and implemented a number of test programs and test suites for exercising product APIs.

I was responsible for testing a variety of I/O devices. I provided test expertise in qualifying new revisions of the MOD/400 Honeywell proprietary operating system.

1984-1986: **Blue Earth School**, Blue Earth, MN

Consultant

I designed and implemented SHL - a complete school administrative system providing support for student and staff lunchroom activity. This system was based on a multi-node LAN providing connection between the administration office and the lunchroom bar-code reader. I played an instrumental part in procuring a contract from a major educational software publishing company for supporting the development costs of this project. The system was implemented in Pascal.

I did technical support for a bar-code driven library circulation system. I designed and oversaw production of student identification cards. These same cards were used in the lunchroom system.

I did technical support for two educational research projects: 1) Project BEACON was a state funded technology grant awarded to thirteen Minnesota school districts. 2) ACOT (Apple Classroom of Tomorrow.) Responsibilities for these projects ranged from educational software evaluation to staff training, student teaching and class computer lab installation and repair. Both of these projects ranked #1 in the State during the two years they were funded.

1983-1984: **Inno-Media**, Mankato, MN

<u>Consultant</u>

I delivered a variety of software services for local businesses. Some specific accomplishments include: Developed and optimized 6502 assembly language graphics tool for authoring education software; Developed custom animated graphics for business presentations; ported an educational software package from the Tandy PC to the Apple][PC; Designed and implemented a mailing list database system.

1982: **United Managers**, Faribault, MN

<u>Consultant</u>

I modified numerous Apple][-based accounting and data tracking packages for use in agribusiness. Designed and implemented a billing system for a local trucking business. Additional responsibilities included the installation and maintenance of Apple][systems in business and educational environments.

1982: **Better Farm Business**, Waseca, MN

<u>Consultant</u>

I designed and implemented the MicroTutor courseware authoring system. This Apple][-based product provided a means for developing interactive educational courseware using third-party word processing and graphic rendering tools. MicroTutor ran on the Corvus-based local area network and was capable of serving an entire classroom of users. Responsibilities also included content creation using still and animated graphics.