



## Profile

Gavin McKenzie is an uncommon combination of mobile software developer and enterprise software architect, with a two-decade track record of successfully designing and developing commercial and enterprise solutions. He has demonstrated vision and leadership with an ability to communicate and meet goals from an initial concept through all aspects of the software development process.

After a successful career with leading commercial software companies, Gavin started Angry Pumpkin Software in 2007 and refocused on mobile solutions. Gavin is equally adept working with customers and stakeholders, architecting and developing solutions, and leading developers to excellence.

## Recent Projects

*Note: Due to NDA constraints, identifying detail and specific aspects of some client work is omitted.*

### Mobile Solutions

#### Instant Messaging and VOIP App

Angry Pumpkin was hired to augment an existing development team implementing an iOS version of an instant messaging and VOIP app with large user base. In addition to developing sophisticated features, Angry Pumpkin was tasked with quickly migrating the existing codebase to support and workaround issues with Apple's newly released iOS 7.

#### Event Apps

Angry Pumpkin was hired to temporarily replace an in-house developer for a vendor of event-oriented apps. This required quickly becoming proficient with substantial existing codebase and extending it to meet new feature requirements under tight deadlines for apps with high public visibility; and, perform maintenance and enhancements on the client's automated build processes.

#### Audio/Video App Prototype

Angry Pumpkin was hired, under a very aggressive schedule and constrained budget, to create a proof-of-concept app demonstrating simultaneous streaming playback and recording of audio/video over wireless. The app was delivered under budget, on time, and exceeded the client's expectations.

#### "SavvyDox" iPad app ([savvydox.com](http://savvydox.com))

Angry Pumpkin was hired to develop an enterprise-focused mobile solution, enabling the automated distribution of versioned PDF documents to iPad and iPhone users for collaborative review and commenting. In addition to developing the iOS app, Gavin designed all of the app wireframes, and designed the RESTful web-services developed by the client's server team. Angry Pumpkin also provided graphic-design services, creating a look for the app consistent with the company's branding.

#### Whole-Home Audio App

Angry Pumpkin was hired to develop an iOS app available as part of a commercially available whole-home audio system. The app enables management and playback of music through the audio system,

and integrates third-party streaming music services. Gavin also designed a solution enabling users to browse massive libraries of content over a network in real-time.

### **Unified-Communications iPad App**

Angry Pumpkin was hired to augment an existing development team at a major telecommunications company, to accelerate the development of their unified-communications iPad app. Without any prior knowledge of the app, and within the short span of six weeks, Gavin assumed responsibility for major product features and delivered them on-time.

### **VOIP iPhone App**

Angry Pumpkin was hired to develop a Voice-Over-IP (VOIP) iPhone app based upon open-source SIP libraries, for use within the client's own managed infrastructure. Gavin also implemented a UDP-based communication layer required to bootstrap the app communication with the client's servers.

### **News Aggregator iPad App**

Angry Pumpkin was hired by a company was nearing beta-phase development of an iPad app. The app retrieves and aggregates news and social networking updates. The client hired Gavin to develop a separate version of the app with reduced functionality; prepare the app and source code for licensing to third parties; advise on robustness and performance issues; and, author documentation to assist licensed third parties with customizing and re-branding the app.

In addition, Gavin provided a novel solution for extracting the article content from within an arbitrary web page, such as a blog posting or mainstream media article.

### **Enterprise iPad Strategy**

Angry Pumpkin was hired by a leading systems integrator to assist with adoption of iPads for internal employee use.

The client hired Gavin to research and recommend a solution for Mobile Device Management; architect and cost the development of an in-house virtual private cloud to enable employee access to company documents and content from iPads; and, advise on development of in-house apps.

### **Medication Tracking iPhone App**

Angry Pumpkin designed and developed a native iPhone application focused on managing medications and tracking rates of consumption. Developed in Xcode 4 and Objective-C, the app leverages Core Data for storage, Core Animation for fluid and responsive user interface interactions, and uses an open-source library for handling JSON content.

## **Non-Mobile Solutions**

### **Bank Case Management System**

Gavin was the architect and lead developer on a team that delivered a production case management system to a major U.S. bank, used by hundreds of bank customer service representatives daily, in two timezones, to manage an annual case load of over 300,000 customer service calls and the associated PDF document artifacts of each case. This solution was comprised of a web application developed in Adobe Flex and ActionScript, connected through a custom-developed Java/J2EE web-service layer that

used both REST and SOAP communication strategies to integrate with bank enterprise systems, access the application database through a Hibernate persistence layer, and connect to a FileNet system via a third-party API. The solution was deployed on a clustered JBoss environment, and has been in production since early-summer 2010.

## **Notable Accomplishments**

### **Patents**

Gavin is co-inventor on three patents pertaining to Adobe PDF and XML document formats, dynamic page layout, and multi-locale intelligent documents.

### **Launch of [blogs.adobe.com](http://blogs.adobe.com)**

Gavin pitched a one-year plan to the Adobe executive-team for the delivery of a public blogging initiative designed to narrow the communications gap between Adobe and its customers. Gavin assembled and led virtual teams comprised of legal, public relations, marketing, and IT, focused on delivering the required policies and technologies. Gavin evangelized blogging to the organization and mentored employee bloggers. One year later, in August of 2005, the [blogs.adobe.com](http://blogs.adobe.com) site successfully launched and was well-received as a significant shift in how Adobe communicates publicly.

### **Semantic-Web Technologies and Web Standards Work**

Gavin was a member of the World Wide Web Consortium's (W3C) Semantic Web Best Practices & Deployment Working Group, and worked with semantic-web technologies including metadata (e.g. RDF) and ontologies (e.g. RDF-Schema, OWL).

Gavin was also a member of the HTML 4 Working Group, and a founding member of the W3C XForms Working Group focused upon developing the next generation of web-form capabilities.

### **XML Forms**

Gavin developed a family of XML markup languages and corresponding software architecture that reshaped JetForm's product family. From initial concept in 1997 through 2004, Gavin remained tenaciously focused on this effort and assumed many roles over the duration of the initiative: chief architect, development lead, and product manager. In 1999 Gavin received JetForm's "Above and Beyond" employee-of-the-year award recognizing his leadership.

JetForm's XML forms capabilities were a key technology factor in Adobe's acquisition of JetForm, and this technology is present today in Adobe Acrobat/Reader and Adobe LiveCycle enterprise software.

### **PDF Support**

Gavin recognized that JetForm solutions lacked the ability to leverage the Adobe Portable Document Format (PDF). When JetForm R&D chose not to embark on developing PDF capabilities, Gavin identified a customer in the Netherlands willing to assume a portion of the development costs in return for preferential licensing terms. Gavin led the subsequent development effort within JetForm. These PDF capabilities were also a key technology factor in Adobe's acquisition of JetForm.

# Work Summary

## **Angry Pumpkin Software Inc.**

*2007 - present*

- Development of iOS mobile applications (iPad, iPhone, iPod touch) for clients.
- Enterprise mobile strategy consulting.
- Development and delivery of Adobe-centric enterprise Java and Flash/Flex/AIR software solutions.

## **Adobe Systems Inc.**

*2002 - 2006*

- Provided architectural leadership to the Adobe LiveCycle and Acrobat development teams in their adoption of XML Forms Architecture technology.
- Contributing member of the World Wide Web Consortium (W3C) Semantic Web Best Practices & Deployment Working Group, focusing on formalizing semantic-web technologies.
- Member of the W3C XForms Working Group (since 1999).
- Managed development of the publicly available Adobe XML Forms Architecture specifications.
- Member of a development team working on research, and prototype development, in the area of automatic metadata extraction from unstructured content.

## **Accelio Corporation (formerly JetForm)**

*2001 - 2002*

- Created a development team responsible for delivering foundational XML forms technologies to internal product development groups.
- Evaluated and managed all open-source development and licensing.

## **JetForm Corporation**

*1993 - 2001*

- Led the design and specification of a family of XML formats that became the underlying technology for both client-side and server-side electronic form solutions at JetForm, and subsequently Adobe.
- Submitted the XFA specification to the World Wide Web Consortium (W3C).
- Managed a development team focused on Java-based development of a server-side document generation system based on XFA.
- Modified existing products to deliver capabilities suitable for use in Chinese, Japanese, Korean, and Vietnamese markets. Provided expertise to other development teams on matters related to internationalization, Unicode, and locale-specific character encodings.
- Identified a need for Adobe PDF support in JetForm products; proposed the capability to a customer in the Netherlands; and, designed the technology subsequently developed and delivered.
- Designed and co-developed a printing sub-system enabling JetForm document generation products to drive production-class high-speed Xerox laser printing systems.

# Technical Skills

## Development

- Apple iOS (iPhone/iPad/iPod Touch) development (Objective-C, Cocoa)
- Java/J2EE, C/C++
- MySQL, SQL Server, NoSQL technologies such as CouchDB
- Dynamic languages (e.g. Ruby, Lua)
- XML languages and tools, markup-language design, semantic-web technologies (e.g. RDF and OWL)
- Web technologies: HTML, HTTP, SOAP & REST, JSON, XMPP

## Operating Environments

- Windows (desktop and server), UNIX (Solaris, AIX, Mac OS-X), Linux (RHEL, CentOS, Ubuntu)

## Standards Development

- W3C Working Groups: HTML, XForms, Semantic Web Best Practices & Deployment

# Education

Loyalist College of Applied Arts & Technology,  
Computer Programmer Analyst – 3yr. program (1986 - 1989)

# Volunteering

Director on the Board of an Ottawa independent school since 2005, and school President from 2007-2011.

Member of the Advisory Board to the Loyalist Computer Studies department from 1997-2005. In 1998 Gavin persuaded Loyalist to modernize the curriculum with a focus on Java and web-technologies, shifting the curriculum away from trailing-edge technologies.

# Contact

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