
CHARLES STUART DOĞAN FORSYTHE

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TECHNICAL SKILLS OVERVIEW

Charles has nearly 30 years of broad industry and technical experience, including 20 years working with Java technologies. In any role, Charles can draw on this deep experience to solve problems quickly and create valuable technology using object-oriented architecture, best-in-class frameworks, and agile development practices.

EDUCATION

June 1987 **Massachusetts Institute of Technology** **Cambridge, Mass.**
Bachelor of Science in Electrical Engineering

PUBLICATIONS

April 2013 **Instant Freemarker Starter**
An introductory, example-driven, technical guide to the Freemarker template system.
Packt Publishing, ISBN-13: 978-1782163824

SPEAKING ENGAGEMENTS

September 2014 **Strangloop 2014** **Saint Louis, Missouri**
Introduction to the Java Virtual Machine Bytecode
Introduction to the internals of Java including hands-on exercises creating a custom compiler for a simple domain-specific language (DSL).

SECURITY CLEARANCE: SECRET

PROFESSIONAL EXPERIENCE

Mar. 2012 **SAIC** **O'Fallon, Illinois**
– Present *Technical Lead/Architect*

Developing various applications to support military logistics.

- Worked with Java, JavaScript, Flex/ActionScript, Vaadin, HTML5, and CSS3 to create JSR-286 Portlets for Liferay/Tomcat and Liferay/Jboss .
 - SOA architecture utilizes Spring and Axis 2 to provide SOAP and JSON ReST services connecting various tiers, including from Flex applications and to webMethods BPM.
 - Deployed application to secure Linux environment.
 - Used Hibernate and stored procedures to simplify persistence on MySQL and MS-SQL back-end databases.
 - Introduced automated testing (JUnit, Mockito, Emma, Cucumber), continuous integration (Maven, Gradle, Ant, Jenkins, Nexus) and source control (SVN/Git) to along with associated methodologies.
 - Specified and implemented XML-based B2B data interchange with commercial vendors, replacing EDI X12 legacy system.
 - Managed migration of application suite from Liferay 5 to Liferay 6.
 - Set up virtual development lab to support distributed development teams.
 - Managed TDD agile development using Jira and Version One for online kanban.
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Jun. 2011
– Feb. 2012

Monsanto
Senior Java Developer (Consultant)

Creve Coeur, Missouri

Contributed to Java applications intended to manage the development of experimental crops in Monsanto greenhouses. Spring 3.0 was used on both client and server. SOAP services were exposed via CXF running on weblogic servers.

- Development included Java SOAP services using CXF, and GUI applications based on Java/Swing.
 - Applied agile methodologies to execute “mid-course corrections” in response to emerging requirements.
 - Resolved architecture-level issues including Hibernate performance.
 - Maintained over 95% of code coverage in JUnit tests.
 - Worked to QA to guide application to successful release.
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Dec. 2005
– Jun. 2011

Expedia Affiliate Network
Senior Architect

Springfield, Missouri

Engaged to address JEE/J2EE architectural issues for the Expedia Affiliate Network (EAN). Provided architectural and senior development support for a series of projects to transform this system from an ad-hoc “start-up-style” code base to an enterprise-class Commerce system.

- Performed comprehensive code review with existing team and identified critical areas in need of remediation.
 - Lead development efforts to refactor problematic areas.
 - EJBs were factored out in favor of Spring-managed beans.
 - Replace ad-hoc SQL with JPA
 - Optimized service bottlenecks using ehCache
 - Orchestrated a radical platform upgrade. Migrated from Java 1.4, Resin 2, and JBoss 1.1 to Java 6, Spring 3 and Tomcat.
 - Implemented JMX instrumentation for NetOps monitoring and real-time control of OLTA systems
 - Improved coding standards by applying Agile development methodologies including frequent code reviews, test-driven development and continuous integration.
 - Brought the system into compliance with Payment Card Industry Data Security Standard (PCI DSS).
 - Developed the first updates template system, replacing a chaotic collection of JSPs with a basic MVC architecture using template-based rendering (Freemarker).
 - Developed new system components to support the migration of Hotels.com from a stand-alone platform to a unified international system running on EAN web services.
 - Collaborated with an offshore team in Minsk to develop a completely new Web 3.0 (GWT) template system, allowing for increased top-line revenue growth
 - Improved system security with OSWASP methodologies and PKI
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Jan. 2005
– Dec. 2005

Hewlett Packard, Inc.
Lead Java Developer (Consultant)

Houston, Texas

Member of a “tiger team” assembled by Hewlett Packard to help address problems that emerged during the final testing phases of their fourth generation of a product catalog management.

- J2EE (Java 5) system ran on HP-UX and Windows XP using Oracle 9i as a database and BEA Weblogic as an application server..
- Performed a comprehensive codereview using manual and automated approaches.
- nterfaced with developers in Bangalore, India to help them execute the plan.
- Optimized inbound systems using enterprise scale concurrency
- Introduced JMX for system monitoring and management
- Modified the data flow to compensate for the retirement of one of the data feeds from the legacy system.
- The specific data feed came from an aging system that was expensive to maintain, and its content could be reassembled from information in newer data feeds.

Jul. 2004
– Jan. 2005

Moblize, Inc.
Lead Product Developer (Consultant)

Houston, Texas

Joined a small (4-person) startup team to assist in transitioning a proof-of-concept “Internet of Things” product from field test to production.

- Developed embedded Java (JME) for devices including the TINI JVM, SNAP (Cjip) Native Java Chip, and the Java-Powered iButton JavaCard cryptographic peripheral.
- Implemented HTTP 1.1 server with Servlet API subset for web services and a template system for flexibility content rendering (HTML, WAP, XML).
- Helped define, and provided implementation of a new 21st-Century SCADA architecture. that integrated now-familiar “Internet of Things” features.
 - De-coupling of software and hardware implementation
 - Over-the-air (OTA) update/addition of firmware
 - Web used for IPC *and* HMI

Mar. 2004
– Jul. 2004

JPMorgan Chase
Senior Java Developer (Consultant)

Houston, Texas

Worked with a group that creates automated, algorithm-based equities trading systems.

- The analysis scope was expansive, due to the diversity of technologies employed.
 - *Core Technologies:* EJBs, XML-to-Object Binding, WSDL-based RPC, JNDI, JDBC, JSPs and TIBCO JMS messaging;
 - *Application Servers and Frameworks:* JBoss, Struts, Spring, and a proprietary application server optimized for executing trading algorithms;
 - *Domain Specific:* FIX protocol engines and other domain-specific packages.
- Authored a prototype stop-gap solution that could be incrementally enhanced to become a light-weight, simplified replacement for a current, unrecoverable component.

Sep. 2002
– Mar. 2004

Alogic Incorporated
Architect / Developer (Founder)

Dallas, Texas

Responsible for all technical aspects of a start-up company effort to create a new web-based application.

- Applied J2EE technologies to build unified, highly-scalable practice-management software that reduces the complexity and improves the profitability and quality of home-health attendant service agencies.
 - Managed aggressive time-to-market goals with prototype-and-refactor approach, similar to Extreme Programming methodology.
 - Controlled platform cost without sacrificing quality by choosing proven, popular open-source frameworks. These included the Tomcat, Struts, Velocity, Castor JDO and MySQL.
 - Developed dynamic web-based JavaScript user interface. These techniques became popularly-known as “Web 2.0” but were not widely in use at the time.
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Jul. 2001
– Sep. 2002

Texas Home Health of America
Interim Director of Information Technology

Silsbee, Texas

Managed the technical aspects of a major business process re-structuring. The project introduced personal computers, digital imaging, and advanced IP networking to a \$70M health care company which literally had not updated technically since 1982.

- Provided PC's and LAN at 19 different offices spread along eastern Texas from Longview to McAllen.
 - Built a corporate WAN connecting all locations in a private-address IP next using IPSec tunnels with 3DES encryption strength; the network design stressed seamless transparency, security (for HIPAA) and appeared topologically as a giant LAN.
 - Deployed server infrastructure to support a windows-based practice management application deployed to the WAN via Microsoft Terminal Server.
 - Contributed program code to enhance the functions of the practice management application and provided interfaces to legacy AS-400 system.
 - Developed prototype IVR for field worker management using VXML
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Mar. 2000
– Jun. 2001

NetVoice Incorporated
Vice President, Software Development

Irving, Texas

Directed technical strategy and implementation for cutting-edge digital voice products.

- Using primarily Java technology, created a custom billing system to allow rapid deployments of innovative call plan products such as flat-rate and tiered pricing models.
- Developed web-based tools for Customer Relationship Management (CRM) including Customer Service Representatives (CSR) tools, and sales/marketing tools for identifying premium customers and upselling opportunities based on calling patterns.
- Prototyped unified messaging applications combining voicemail, email and advanced call routing using Cisco's Call Manager platform.

OLDER PROFESSIONAL EXPERIENCE

Jul. 1997 – Mar. 2000	PricewaterhouseCoopers Manager Lead teams on various e-Commerce security projects for Fortune 1000 companies.	Dallas, Texas
Nov. 1996 – Jul. 1997	Novaré International (now Brainfood) Consultant Developed web applications and internal tools in Java and C++.	Dallas, Texas
Nov. 1996 – Nov. 1994	Electronic Data Systems (EDS) Contractor Lead member of team developing system for broadcast automation of live sports events for the Hong Kong Jockey club. Worked in C on OS/2	Plano, Texas
Aug. 1993 – Nov. 1994	Intelligraphics Contractor Wrote kernel level device drivers in Assembly Lanaguage.	Dallas, Texas
Mar. 1991 – Aug. 1993	Micrografx Software Engineer Key contributor in development of 32-bit graphic engine for OS/2 2.1 in C.	Richardson, Texas
Oct. 1990 – Mar. 1991	Interflo Medical Contractor Developed embedded hardware and software to measure blood flow during surgery. Coded in C for TMS34020	Plano, Texas
May 1989 – Oct. 1990	CONVEX Computer Design Engineer Designed Custom IC's and board logic for super computer CPU.	Richardson, Texas
Oct. 1988 – May 1989	Bitstream, Incorporated Contractor Worked on three-person team to design Bitstream's Speedo font-rendering software, in C.	Cambridge, Massachusetts
Jun. 1987 – Oct. 1988	PictureTel Design Engineer Designed hardware and software for second-generation Picturatel video teleconferencing system. Worked in Assembly Language and C.	Peabody, Massachusetts
