

**Email:** blaine.donley@quaso.com

**Telephone:** (540) 842-0805

**Address:** Stafford, Virginia

## Security Clearance

Information Available Upon Request

## Education and Training

<b>Ph.D. in Information Technology Specialization in Software Engineering Research oriented towards Web Software Testing George Mason University, Fairfax, Virginia</b>	Completed all but dissertation
<b>M.S. in E-commerce (3.75 GPA) George Mason University, Fairfax, Virginia</b>	Fall 2003
<b>B.P.S. in Computer Technology (3.75 GPA) University of Mary Washington, Fredericksburg, Virginia</b>	Spring 2002
<b>A.A.S. in Information System Technology (Cum Laude) Germanna Community College, Fredericksburg, Virginia</b>	Spring 2000
<b>CMMI v1.3 Model Upgrade Software Engineering Institute, Arlington, Virginia</b>	March 2011
<b>Introduction to CMMI Software Engineering Institute, Arlington, Virginia</b>	August 2007

## Professional Experience

**Chief Software Architect** 9/2008 to present  
**Self-Employed / Quaso LLC, Stafford, Virginia (Multiple contracts)**

- Software Development:
  - developed Java-based AWS lambdas to sync data between Salesforce and DynamoDB using APEX custom triggers, platform events, SNS, and CloudFormation/yaml (replaced existing Heroku Connect / PostgreSQL solution)
  - developed custom triggers and refactored Salesforce workflows using APEX
  - developed custom Salesforce pages and components using Lightning Web Components
  - developed a custom billing system UI (over 90% unit test code coverage) using React and a Killbill backend
  - developed an iOS/Android app for mood tracking using Ionic, Cordova, Angular.js, HTML5, CSS3, and PHP (web control panel and REST API)
  - designed and developed a web application that utilized an existing REST API using Angular 4, Angular Material, HTML5, CSS3, Redux, Karma, Jasmine, Istanbul, Protractor, and Webpack

- designed and developed a React-based sub-site that integrated with an existing Backbone web application using Webpack, Karma, Chai, Enzyme, Istanbul, Mocha, Sinon, and Rx.js
- developed an iOS/Android app for restaurant order management using Ionic, Cordova, and Angular.js
- developed an iOS memorization app using Swift and XCode
- developed a rich, single-page web application using Backbone.js, HTML5, CSS3, Require.js, JQuery, Spring Web, and Java
- developed an advanced decision support system using an evolutionary algorithm (genetic), software agents (JADE), a custom ontology (OWL/Protégé and JENA), JBoss Seam, and JBoss ESB
- development of a patent-pending algorithm for sentiment analysis using C# .NET and SQL Server
- development of a VXML/CCXML phone system and ASP.NET web request handlers
- developed (table-less) CSS web user interfaces with Javascript development including custom scripts and DOJO/DIJIT widgets
- designed and developed a 3-tiered ASP.NET MVC web application using Spring.NET, LINQ, and JQuery
- designed and developed a 3-tiered ASP.NET 3.5 web application and XML-based web services using Spring.NET and ADO.NET
- designed and developed a Java-based web application using Java Server Faces (JSF), Facelets, IceFaces, Spring, and iBatis frameworks
- customization and integration with various COTS products
- Requirements Analysis: rapid elicitation of system requirements using non-functional prototypes; creation of Software Requirement Specification (SRS) conforming to IEEE standards
- Systems Design: creation of System Design Document (SDD) and Interface Control Document (ICD) using Enterprise Architect (EA) following IEEE and DoJ templates, UML 2.0 diagrams, and various Visio network diagrams
- System/Network Setup/Configuration: configuring and managing various physical and virtual web server environments (Windows Server 2003 and Linux) including setup and configuration of networks, databases (SQLServer and MySQL), web servers (IIS and Apache), Servlet container (Tomcat), user accounts, remote desktop connections, VPNs, source control/work item tracking/release management (Git, TFS, CVS), and SSL in multiple environments (development, testing, staging, and production); managing build and deployment of JEE and .NET applications
- Information Assurance: assessed system for security vulnerabilities and implemented mitigation strategies
- Testing: unit, integration, and system testing of business logic, data access, web UIs, and web services
- Mentoring: providing mentoring for various development team members (designers and developers) and driving code reviews
- Consulting: providing expert advice for web application initiatives, assisting an organization in achieving CMMI Maturity Level 2 and 3 for the CMMI development constellation version 1.3, and providing recommendations for process improvements, coding standards, and software engineering practices

**Systems Architect/Consultant** (contract)  
**Georgetown University**, Washington D.C.

9/2008 to 12/2008

- Requirements Analysis: elicited system requirements with non-functional prototypes
- Consulting: provided expert advice for web application initiatives
- Software Engineering: designed and developed an n-layered .NET-based web application using ASP.NET 2.0 and MySQL

**Associate/Software Architect**  
**Booz Allen Hamilton**, McLean, Virginia

11/2007 to 8/2008

- Government Customers: worked primarily for government clients including FBI and Millennium Challenge Corporation
- Consulting: provided consulting services for various government clients
- Software Architecture: analyzed and designed various software architectures
- Research and Development: Developed a UML profile for modeling Struts applications and a Model Driven Architecture (MDA) plug-in for Rational Software Architect to transform a Struts Platform Specific Model (PSM) into executable source code.
- Project Management: planned and managed various IT projects including risk management, scheduling, and resource allocation
- Development: developed, configured, and deployed various components including, but not limited to:
  - Plug-in for Rational Software Architect
  - Struts web components
  - XML Schemas and XML files

**Software Architect/Senior Software Engineer**  
**Imagine One Technology & Management, Ltd.**, Arlington, Virginia

2005 to 10/2007

- Government Customers: worked for numerous DoD clients including Navy Medicine Online, NMIMC, BUMED, M-CAST, NKO, and DEERS
- Software Architecture: analyzed and reported on existing architectures and designed new software architectures and service-oriented architectures utilizing UML 2.0, software design patterns, n-tiered architectures, and object oriented design principles. Utilized a custom designed Web architecture and development approach based on a hybrid of formal and informal techniques from multiple disciplines
- Documentation: generated Analysis Reports, Software Requirements Specifications, Interface Control Documents, Interface Design Documents, Software Design Documents, Test Plans, Test Case Specifications, Whitepapers, etc.
- Software Development: developed Web-based systems (*ASP.NET, C#, AJAX, Javascript, Coldfusion, ASP, Visual Basic, CSS*), system interfaces (*XML, Web Services, XML Schemas, Windows services*), and multimedia/video streaming applications (*Flash, Flash Media Server, Flash Remoting*) for systems such as portal frameworks, online collaboration tools, and custom Web applications using a variety of techniques including prototyping, rapid application development, waterfall model, etc. in *Windows Server 2003* environments running *IIS*
- Testing: conducted verification and validation testing for various systems
- Training: conducted internal training for development tools, software design patterns, software architectures, development approaches, etc.
- Process Improvement: involved in a company-wide initiative to improve software development processes
- Communication: communicated directly with stakeholders to elicit requirements and presented recommendations and product demonstrations directly to clients
- Database Development: developed schemas and SQL for multiple DBMS including *Oracle, SQL Server, Microsoft Access, and FoxPro*
- Reporting: generated/modified custom reports using *ASP.NET* and *Crystal Reports*
- Standards Compliance: *IEEE, DOD-STD-2167A, FIPS PUB 140-2, Section 508, DoDAF*
- Systems Design: designed secure system-to-system interfaces utilizing *VPN, SSH, and SSL* connections while conforming to strict firewall restrictions
- Development Tools: utilized *Microsoft Visual Studio, Dreamweaver, Visual Basic 6.0, Visual Source Safe, SQL Plus, MagicDraw, Microsoft Visio*

- Legacy Applications: analyzed legacy applications, provided recommendations for adaptations/redevelopment, and migrated legacy applications using reverse engineering and custom development techniques
- Team Development: divided and allocated work assignments and contributed in multidisciplinary development teams
- Dependability: responsible for recovering numerous failing projects ultimately delivering them on time and within budget without sacrificing quality

**Web Developer** (contract) 2004 to 2005  
**George Mason University**, Fairfax, Virginia

- Web Development: developed various Web applications and Web services using *C#, ASP.NET, Flash Actionscript, Microsoft Access, and XML*

**Assistant Webmaster/Senior Web Developer** 2001 to 2005  
**University of Mary Washington**, Fredericksburg, Virginia

- Web Development: developed and maintained custom Web-based systems, Web services, and a custom built content management system, using *PHP, ASP, VBScript, Javascript, MySQL, Microsoft Access, XML, SOAP, etc.*
- Animation: dynamic 3D interactive virtual tours using *3D Studio Max, Plasma, Flash, Flash Remoting, XML, and MySQL*

**Web Developer** (contract) 2003  
**Breg Environmental**, Fredericksburg, Virginia

- Analysis: elicited requirements from client through interviews
- Web Development: developed a custom Web-based application and corresponding content management system using *PHP, MySQL, and DHTML*

**3D Graphics Designer/Animator** (contract) 2002  
**Web Equipment**, Stafford, Virginia

- Animation: developed a 3D interactive animation using *3D Studio Max and Flash*

**Web Developer/Systems Analyst** (internship to contract) 2001 to 2002  
**StaffNet**, Fredericksburg, Virginia

- Systems Analysis: elicited requirements and refined business goals
- Web Development: developed an e-commerce application using *Perl, iHTML, and Microsoft Access* in a *Windows NT* environment running *IIS*

**Systems Developer/Analyst** 1995 to 2001  
**Donley Technology**, Colonial Beach, Virginia

- Systems Analysis: worked directly with client to elicit software requirements
- Database Development: developed applications for customer order tracking and inventory management
- Web Development: developed multiple Web applications using *Perl and mSQL* in a *Linux* environment using *Apache Web server*
- Report Production: developed dynamically generated reports
- Editing: co-author of "EH&S Compliance Auditing and Tracking Software Report," "MSDS Software Report," and "Environmental Management Information Systems Report"

- Graphics Design: designed logos and graphics for in-house and external clients using Adobe Photoshop and Adobe Illustrator

**Systems Developer/Analyst** (contract)

1999

**Communication Workers of America**, Washington D.C.

- Systems Analysis: worked with client for requirements elicitation and validation
- Database Development: developed a stand-alone system to track member information using *Microsoft Access and Visual Basic*

## Publications

### **A Model-based Approach to Testing Stateful Web Applications**

2<sup>nd</sup> International Conference on Software Testing, Verification, and Validation  
Ph.D. Symposium. ICST 2009, Denver, Colorado USA. April 1, 2009.

## Experience

### **Databases**

*DynamoDB, FoxPro, Microsoft Access, Microsoft SQL Server, mSQL, MySQL, Oracle, PostgreSQL*

### **Languages/Frameworks**

*Angular, Angular.js, APEX, ASP, ASP.NET, ASP.NET MVC, AWS (Lambda, SNS, Cloud Formation, yaml), Backbone.js, Coldfusion, CSS, C#.NET, C++, DOJO, DIJIT, EnterpriseJavaBeans, Facelets, Flash Actionsript, HTML, iBatis, IceFaces, iHTML, JADE, Java, Java Server Faces (JSF), Javascript, Java Server Pages, Java Servlets, JBoss ESB, JBoss Seam, JENA, JQuery, J2EE, LINQ, Perl, PHP, React, Require.js, SOAP, Spock, Spring, Spring.NET, Struts, VB.NET, VBScript, Visual Basic, XML, XML DTDs, XML Schemas*

### **Tools**

*3D Studio Max, Android Studio, ArgoUML, CVS, Dreamweaver, Eclipse, Enterprise Architect, Flash, Git, Illustrator, IntelliJ IDEA, MagicDraw, NetBeans, Photoshop, Plasma, Protégé, Rational Software Architect, RequisitePro, Team Foundation Server, Visio, Visual Studio, Visual Studio Code, XCode, XMLSpy*