

Brian Hassel

SENIOR SOFTWARE ARCHITECT

Experienced, full-stack software architect with 15+ years in application design and development. Well-versed in all phases of the software development lifecycle and utilizing agile development methodologies. Comfortable leading or working in fast-paced team environments.

DOMAIN EXPERTISE

- Technical Lead/Architect
- Financial Software
- Data Integration/BI
- Responsive UI Design
- Software Design Patterns
- Unit Testing and Mocking
- Agile Development Process
- Solutions Deployment
- Trading/FIX Messaging

TECHNOLOGY SUMMARY

- C#/.NET Framework
- ASP.NET MVC
- AngularJS
- jQuery
- HTML5/CSS/Less.js
- Entity Framework
- WCF/WebAPI/REST
- NUnit/MSTest
- StructureMap (DI)
- Git/Mercurial
- SQL Server
- MS Azure
- TeamCity/Cruise Control
- Octopus Deploy
- Redis

PROFESSIONAL EXPERIENCE

EXPENSEWATCH, INC. **Senior Software Architect**

Plymouth Meeting, PA 2015 to Present

Senior architect and developer for ExpenseWatch, a web-based (SaaS), multi-tenant spend management suite. The product handles thousands of transactions and users daily.

- Re-architected a monolithic ASP.NET web application to queue-based microservices to improve reliability, performance, and maintainability.
- Automated the build, test, and deployment process of all ASP.NET websites, supporting Windows services, iOS/Android apps, and database migrations using TeamCity and Octopus Deploy.
- Redesigned areas of the UI using MVC, jQuery, Knockout.js, and Bootstrap.
- Performed a full code security audit and implemented improvements including: PBKDF2-based password hashing, one-time passwords, and authenticated encryption (HMACSHA256/AES256) for sensitive personal and financial data.
- Designed and developed a REST-based API for transaction objects using WebAPI and ASP.NET Identity.
- Implemented an integration to QuickBooks Online, including OAuth management, for syncing transaction data.
- Developed .NET data storage libraries and conversion utilities to move 4 TB of user-uploaded binaries to Azure blob storage.
- Implemented an automated OCR process for receipts uploaded to the system. The OCR process uses queues, webhooks, and a plugin system that allows multiple OCR providers.
- Built a new, queue-based reporting service that addressed timeout issues with running large

reports in the web application.

- Full cleanup and modernization of 600+ KLOC code base, including moving from .NET 4.0 to 4.6, updating packages, and fixing all compiler warnings.
- Implemented automated unit and integration tests. Prior to my arrival, there were no unit tests for the code base. All new modules have 80% code coverage, and tests have been added for legacy code.

ACADEMYONE, INC.

Malvern, PA

2013 to 2015

Senior Software Developer

Senior developer on nine-member team designing and developing software for higher education. Focus on web-based solutions that adhere to HTML5 standards, accessibility guidelines, and mobile-friendly layout.

- Implemented key features in Florida Virtual Campus, a student portal to view course offerings, using: ASP.NET MVC5, Entity Framework 6.1, AngularJS, jQuery, and Bootstrap.
- Served as Tech Lead and primary architect for College Credit Fast Track, a prior learning assessment system, using: ASP.NET MVC5, Entity Framework 6.1, AngularJS, and jQuery. Employed a state-machine design to increase flexibility and reliability.
- Designed and developed a distributed, message queue-based solution to replace a student admissions system using: JAVA 1.8, Spring MVC, Hibernate, Jersey/Grizzly, and Maven.
- Developed software using an Agile-methodology and participated in planning and sprint retrospective discussions.
- Presented key architectural design research and new-technology walkthroughs to other developers at Lunch-and-Learn events.

4DIQ, LLC

Exton, PA

2011 to 2013

Chief Software Architect

Chief software architect for a startup that implemented a .NET data integration and business analytics software package. Assisted in all areas of the business including acquiring new customers and forming partnerships with related firms.

- Designed an in-memory data model that was used to support data sets over 10GB in size.
- Developed an ASP.NET MVC 4 web portal application solving challenges with concurrency, authentication, user privileges, and high availability.
- Developed a WCF service that supported 40 requests a second from distributed client applications.
- Implemented a JavaScript-based charting library to provide configurable dashboards and reports.
- Developed integration interfaces to common social media platforms and CRM systems (e.g. Salesforce, Twitter, Facebook, and LinkedIn.)

SUNGARD FINANCIAL SYSTEMS

Malvern, PA

2007 to 2011

Senior Software Architect/Developer

Led a 5-person team that implemented a .NET portfolio management and trading system.

- Designed and served as lead developer on an initiative to develop an international portfolio management system that was multi-currency and localization-aware.
- Implemented a FIX 4.4-based trading platform capable of handling thousands of transactions daily.

- Gave several presentations during the annual user conference to demonstrate the software.

FINANCIAL TECHNOLOGY INTEGRATORS Wayne, PA 2001 to 2007
Senior Software Engineer

Member of a 4-person team that implemented a .NET portfolio management and trading system used by 2000+ users managing over 100,000 accounts. Acquired by SunGard in 2007.

- Led design & development of a 160+ page ASP.NET web application.
- Designed and implemented a FIX 4.0/4.2/4.4-based order routing network with connections to 20+ broker-dealers that routed tens of thousands of transactions daily.

EDUCATION

UNIVERSITY OF DELAWARE – Newark, DE • **BS in Computer Science**, 2002

- Dean's List (Major GPA 3.6/4.0)
- Concentration in Computer Network Engineering

Frequent attendee of Philly.NET meetings and Code Camps.
Attended 4 years of the Visual Studio Live! conference.