Shuhel Ahmed

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Summary

Full stack software engineer offering seven years of experience in building web and desktop applications and distributed systems.
Extensive experience in Agile Development, Test-Driven Development, Domain Driven Design, Object-Oriented Design, Service Oriented Architecture.
Experience in the full software development lifecycle – from concept through delivery of next-generation applications and customizable solutions.
Known for excellent troubleshooting/debugging skills – able to analyze code and engineer well-researched, cost-effective, responsive solutions.
An excellent problem-solver, able to quickly grasp complex systems and identify opportunities for improvements and resolution of critical issues.

Key areas

Programming, Enterprise Applications, Distributed Applications, Agile, Databases (SQL/NoSQL), Test-driven development (TDD/BDD), SPA, Domain Driven Design, CQRS, Event Sourcing, Design Patterns. REST, SOA, MVVM, MVP, MVC, User Experience.

Technology Stack

Client Side: DurandalJS, AngularJS, Angular Material, Aurelia, jQuery, HTML, CSS, JSPM, RequireJS, SystemJS, Cordova, ReactiveUI, Xamarin, Winforms, WPF.
Server Side: C#, .NET, ASP.NET, ASP.NET MVC, Web API, JavaScript/NodeJS, EntityFramework, NHibernate, xUnit, NUnit, Moq, Owin, OpenID Connect, Topshelf, Windows Service, Hangfire, Log4Net, NLog, FluentMigrator, Castle Windsor, Ninject, Automapper, EasyNetQ
Database: MS SQL Server, MySQL, Oracle, MongoDB, RavenDB, RethinkDB
Shell: Bash, PowerShell, CMD
IDE/Text Editors: Vim, Visual Studio, WebStorm, IntelliJ Idea, Sublime, Atom, VSCode
SCM: Git, Mercurial, Subversion
CI: TeamCity
Project Management/Issue Tracker: Youtrack, TargetProcess
Queue: RabbitMQ, MSMQ
UI Prototyping: Axure RP
Operating System: Windows, Linux

Programming Language

Language	Level	Known since

C#	Advanced	2005
JavaScript	Advanced	2007
Typescript	Intermediate	2014
VB.NET	Intermediate	2009

I am also exposed to C/C++, Rust, Java, PHP, Go, F#, Haskell, Ruby etc.

Experience

2012-Present
Senior Software Engineer
C&E Software Solutions

Project: ERP for Bangladesh Army

Developed and maintained an ERP solution for one of the largest government organizations of Bangladesh (Bangladesh Army) with over 150000 users. The system manages 820 units located across the country and over 250000 people. The solutions consists of several modules like HRM, Accounting, Training, Result Processing, Stock & Inventory, Ration Management, POL Management, Point of Sale etc.

Highlights:

- Wrote a visual query builder and a search platform that operates on a highly de-normalized data repository containing huge volume of data.
- Wrote high performance, secure and reliable REST-full Web API leveraging asynchronous programming technique; concurrency challenges needed to be overcome at the database and application layers
- Developed task based responsive UI that talks to JSON based API backend using DurandalJS and KnockoutJS.
- Wrote highly reusable custom components using KnockoutJS leveraging other JavaScript libraries like MomentJS, JQuery, Bootstrap etc.
- Partitioned the system into independent services and implemented high level inter service communication/integration framework via RabbitMQ and POCO events/messages levering windows service and Topshelf.
- Avoided distributed transactions/two phase commits by ensuring message's idempotency and taking advantage of message queue's at-least-once delivery guarantees.
- Wrote scaffolder in PowerShell and a helper framework that gave 700% productivity boost to developers.
- Wrote CLI tools in C# to facilitate ETL (Extract Transform Load) from sources including CSV, Excel Sheet, Oracle, and MySQL to SQL Server.
- Optimized application performance utilizing IL Weaving and Aspect Oriented programming by replacing dynamic proxy based code.
- Using reflection based Meta programming technique and dynamics to write frameworks that improved the code quality by eliminating duplications for nonperformance critical part of the application.
- Wrote/implemented an algorithm in C# to arrange/sort c# DTO types/objects in terms of dependency in runtime that facilitated reliable change detection and updating/patching.

- Wrote scripts for monitoring service health by reading logs from system's Event Log.
- Wrote PowerShell scripts to carry out continuous deployment using MS Deploy for windows services and web applications.
- Contributed software engineering expertise in the development of products through the software lifecycle, from requirements definition through successful deployment.
- Introduced methodologies and best practices that enhanced product definition, testing, release processes and earning the highest customer satisfaction.

Technology: C#, .NET, JavaScript, Typescript, Web API, ASP.NET MVC, Windows Service, RabbitMQ, SQL Server, MS Deploy, TopShelf, EasyNetQ, Ninject, EntiryFramwork, Fluent Migrator, PetaPoco, CLI, DurandalJS, KnockoutJS, Bootstrap, Less, Windows Server, IIS, Moment, Linq, PowerShell, Moq, xUnit, TeamCity, VisualStudio, Vim, YouTrack, Hangfire

Project: Hospital Management System

Lead the development effort of company's flagship product, Hospital ERP. This complex system consists several sub modules including: OPD, IPD, Nursing Station, Admission, Emergency, OT, Day Care Center, Diagnostic Center, Follow Up and Prescription, MRD, MIS, and Accounting, Billing, Payroll, HRM etc.

Highlights:

- Involved in requirements gathering and analysis by collaborating with domain experts and stake holders
- Developed SPAs (Single Page Applications) using AngularJS and Angular Material one per module
- Wrote and structured the backend API by physically isolating them into Bounded Contexts, delivered the API via Web API framework ensuring RESTfull characteristics.
- Integrated with OpenID Connect based authentication/authorization servers for single sign on across multiple apps/sub modules.
- Wrote printing services that enables silent printing for various receipts overcoming browsers limitation of handling printer directly.
- Wrote jobs/background tasks using Hangfire that applies recurrent services for in-patients.
- Developed analytical reports by writing cross database complex sql queries and in memory processing.
- Improved database performance by analyzing frequent queries and creating indexes.
- Created a high fidelity mock up's using Auxre RP and shared with stake holders and users to understand the true user experience.
- Wrote tasks (gulp) to automate development and build process.
- Wrote script with JavaScript/NodeJS and regular expressions that read/parse application code(C# XML, HTML and JavaScript) and change/inject code based on the configuration - achieving faster deployment to multiple customer.
- Provided training to junior developers on TDD/BDD and other frameworks like AngularJS, Angular Material, ASP.NET MVC etc.

Technology: C#, .NET, JavaScript, Typescript, AngularJS, Angular Material, Web API, Hangfire, SQL Server, MS Deploy, Ninject, EntiryFramwork, PetaPoco, Windows Server, IIS, MomentJS, Linq, Moq, xUnit, TeamCity, VisualStudio, Vim, YouTrack, Gulp

Others:

- Improved code quality and stability by gradually refactoring and adding new feature for company's major product (Point of Sale) that spiked the customer growth from 5 to over 120 in 6 months.
- Implemented database versioning and data migration facility from other product and also from old version of our product to new version of POS system.
- Wrote integration code for Proximity Reader (Biometric and RFID) for Attendance system and fed this data to the payroll system.
- Provided maintenance and bug fixes to company's legacy systems/products that are crucial to customers and their business.

Software Developer
2010 - 2012
Independent Developer

Project: Restaurant Management & Online Ordering System.

Designed and developed a restaurant management system (RMS) and integrated online order processing system that is being used by over 50 UK restaurants. The system is designed and optimized for POS hardware.

Highlights:

- Developed and evolved a touch based UI with winforms that works with POS terminal by carefully observing usage pattern - achieving a level of user friendliness that sets us apart.
- Developed a MVC framework for winforms with SPA like experience and used in the application.
- Integrated with hardware like POS printer, Label Printer, Caller Id via direct interfacing COM, USB and serial ports interfacing as well as supporting **OPOS** standards via POS.NET.
- Wrote RCW(Runtime Callable Wrapper) for third party COM based SDK and used in the application.
- Wrote a string utility library for creating "Text Based" receipts.
- Created a windows installer for the application with WIX that also creates the backend database and let's user configure the system during installation.
- Developed SPA application that talks to backend API using AngularJS and Angular Material.
- Integrated with Payment Gateways - receiving payment response with web hooks using a custom secure protocol in a fail tolerant way that confirms the successful order placement.
- Wrote code that imports Post Code and Address data from Royal Mail and use that to integrate with Google maps.
- Created windows service with TopShelf that acts as a web server and hosts the online ordering system.
- Wrote in-process CQRS style backend using MediatR and delivered via Web API.

Technology: C#, .NET, Winform JavaScript, Typescript, AngularJS, Angular Material,MediatR, Web API, SQL Server, Wix, Castle Windsor, EntiryFramwork, PetaPoco, Owin, Owin SelfHost, MomentJS, Linq, Moq, xUnit, VisualStudio, Gulp, Gitlab, Gitlab CI

Software Engineer
2008 - 2010

C&E Software Solutions Ltd

- Wrote C# and winform applications that record sales, monitor inventory, keep customer ledger, and bill customer for a drinking water plant and distribution company that serves over 20000 customers.
- Wrote advanced algorithms in C# to detect imminent system failure by extracting various parameters from hardware log files, which were used within the application.
- Wrote a utility billing software for supermarket/shopping centers using C#, .NET and Winforms.
- Assisted in the design and development web based application for a money exchange company using PHP and MySQL.
- Enhanced, refined and customized C&E Hospital Management and C&E Accounting System for individual client needs and then worked with engineers to ensure successful installation at client sites.

Hobbies and Interests

- Reading code written by other programmers/developers on Github.
- Reading/learning the history and evolution of programming languages.
- Contributing to open source projects. (I am also core team member of popular next generation single page application framework Aurelia)
- Playing with different programming languages. (Currently Learning Rust)
- Watching movies specially animation movies.

Education

Metropolitan University – Sylhet, Bangladesh, 2008
B.Sc., Computer Science & Engineering

Natural Language Proficiency

Bangla: Good.
English: I can interact with a degree of fluency and spontaneity with native speakers on both technical and non-technical subjects. I also can produce clear, detailed text and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.