

Ed Vergara

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SUMMARY:

Design, develop and implement Blockchain, peer to peer, client/server, multi-threaded transaction systems. Developed trading systems for Crypto, FX, Equity, and derivatives trading with broker, proprietary shops and investment banks. Digitization of assets, whitelisting of users, verifiable documents using blockchain and IPFS. Trader applications included front office client facing GUI, FIX liquidity providers and trading API's, market data, trade capture, booking, life-cycling, risk management, and position services. Over five years managing C# development team while hands-on development/SME with Microsoft technologies including C#, VC++, VB, as well as Unix/Linux server technologies such as Java, C, Sybase, Oracle, Perl, JavaScript, MySQL and shell scripting. Blockchain solutions Architect using Ethereum and Hyperledger.

SKILLS:

C, C++, C#, VC++, Java, Kotlin, VB, .NET Core, ASP.NET, WPF, Multi-Threaded, FIX, QuickFIX, REST, XML/XSD, JSON, COM/ATL, IDL, MSMQ, TIBCO EMS, EJB, (g)RPC, rpcLib, Eclipse, VSTO, Remoting, Web Services, WCF, Windows Services, Visual Studio 2008/10/13, Xcode, LLDB, gdb, Rational Rose, UML, Oracle, Sybase, MS SQL, MySQL, mariadb, Perl, PHP, JavaScript, HTML, Angular, Bootstrap, Node.js, Expo, Bash, csh, Python, Vi(m), Emacs, Linux, Apache, Nginx, IIS, WebLogic, J2EE, Samba, Citrix, Odyssey, Agile, Jira, TeamCity, Jenkins, Confluence, Hyperledger Fabric, Composer, golang, BTC, Ethereum, Solidity, Truffle, VS Code, GNU Radio, HackRF, Git, TFS, svn, Wordpress, Docker, AWS, Azure, Ubuntu

EXPERIENCE:

BlockchainBPI.com

New Providence, NJ

2/19 - Present

Founder IPFS/Blockchain Storage

Creating a cloud based system to securely digitize encrypted documents with sharing capabilities across a peer to peer filesystem based on IPFS (Inter Planetary File System) and BTC wallet addresses as identifiers. The node is built using C on Mac and Ubuntu using GCC's Cross Compile for Mac, Linux and Arduino for the moment. It utilizes a decentralized OAuth2 tokenized sessions using BTC wallet addressing and documents are stored encrypted in a distributed manner based on content addressing. It is geared towards embedded systems providing a P2P lookup system to map documents to CID (Content Identifier or distributed filename) and encrypted using BTC addressing and private keys. Working on creating a plug-in system to generate and provision new clients and integrating Schnorr's and Raw Tx multiparty to generate agreement streams on the fly using GCC's Plug-In system to inject code during the compile phases (optimization, code emission and linking) in order to inject base code for plugin integration, verification using Content Addressing, and runtime monitoring. This will allow for an autonomous, compact and performant compiled smart contract system for embedded systems.

Environment: C, IPFS, BTC, AWS, Ubuntu, RestAPI, Docker, Curl, JSON, OAuth2, GitHub, Jira, Confluence, gcc 12 (cross-compile/plugin-ins), Makefile, gdb, mariadb, Wordpress Plugins, Expo, GNU Radio

BlockchainBPI.com

Springfield, NJ

10/19 - 7/20

Contract with a Window Manufacturer

Business Process Integration Engineer Improving the shipping process by integrating a streamlined process into a software application. Conducted and documented a baseline analysis by conducting meetings and making observations of the shipping, invoicing and receivables processes. Making copies of forms, taking photos of staging areas and different stations and screen and dashboards being utilized, running queries against their existing ERP system. Created an SQL Server DB using stored procedures to store the future data for the new shipping process consisting of drivers using an iPad to maintain their driver manifest. The server component is a high performance Web Socket server and a generic client using Universal Windows, Xamarin and a separate MVVM project for portability and using two way bindings for the Windows Universal and IOS GUIs including winforms. *Environment: C#, Windows/Mac, Web Sockets, Xamarin forms, MVVM, Universal Windows, Binary Serialization, Visual Studio 2017 PC and 2019 Mac, Git*

Alphapoint

New York, NY

10/17 - 2/19

Blockchain Token Wallet Developer

Digitizing assets and integrating new coins into the APEX Crypto trading system. The asset digitization was based on using an SGX based custom blockchain and integrating the crypto trading system to mint ERC20 coins into the Ethereum blockchain in order to enforce SEC regulation by verifying the investment status of an interested investor. Integrating

coins consists of using Docker to build an easily deployable node which interacts with a C# DLL using RPC and the specific coins SDK to manage account deposits, sweeps and withdrawals. Some of the coins include, OMNI (raw transactions and UTXO's), Bitcoin, ERC20 Ethereum, BitGo, Stellar, Ripple and Tether.

Environment: C#, VC++, Javascript, Visual Studio, VS Code, REST API, Postman, GitHub, SVN, Docker (Alpine), Jira, Confluence, Azure, various coin SDK's and Blockchain explorers

Credit Suisse / Vergara Software, LLC

New York, NY

9/17 – 10/17

Blockchain POC Consultant

Proof of concept project to pilot a blockchain/DLT solution to address the complexity in the Asset Backed Financial product area. Data modeling and development with client Credit Suisse and several other Investment Banks' SMEs and R3's expertise in order to create a node/participant based system to manage and track SPV's including handling P&I collection payments and distribution payments to note holders.

Environment: Corda, IntelliJ, Kotlin, WebStorm, Javascript, Angular, Bootstrap, Postman, Gradle, GitHub, BitBucket, Jira, R3's testnet, Azure

IBM

New York, NY

4/17 – 8/17

Senior Blockchain Consultant

Blockchain implementation, development and management onsite consulting with client DTCC rolling out a blockchain clearing system for Credit Default Swaps that will reduce a two day process down to a fraction of that time. Responsibilities include system architect, contract design and AWS integration while using my financial background.

Environment: Java, Javascript, Maven, AWS, Bluemix, Hyperledger Fabric, Composer, goLang, Ethereum, Solidity, Truffle, VS Code, GitHub

BNP Paribas / US Tech

New York, NY,

1/17 – 4/17

Convertible Bond Curve and Pricing

Java GUI and C++ Pricing engine for the front office Convertible Bond traders. Converted VC++ Pricing Engine to Visual Studio 2010 using standard template and boost libraries. Java GUI front end additional features with SQL Server stored procedures and Swing forms.

Environment: Java, VC++, Windows, Linux, SQL Server, WebLogic, Swing, Boost, STL

Credit Suisse

New York, NY

10/09 – 10/16

AVP Lead Developer FX Options & Structured Products

FX Options trading system lead developer/owner/SME for front office global client/server windows front to back booking and life-cycling system. Exotic derivative trading system composed of a win form front-end GUI, Server side components on both Windows and Linux using window services, remoting, web services, WCF, COM VC++, C#, VB, Java EJB, J2EE. Investment and Private Banking's FX Options Trading system deputy owner for several applications including Trade Entry, Booking and Life-Cycling of Spot, Swap, Vanilla, Exotic, and Structures Front End and Server side components. Daily work consists of hands-on lead developer while also helping manage global team's book of work for creating new trading tools and products, implementing regulatory changes and reporting for OTC Derivatives including LCR, EMIR, LCH and UTI/USI, trade management (wash, novation, reporting, risk), maintenance, external system integration, as well as supporting the traders, support team, BA's, PM's, and QA. Responsibilities include running bi-weekly status meeting, technical specifications, gathering trader requirements through getting signoff, maintenance, development, 3rd level support (prod + dev environments), building, preparing WIX MSI script, code management/migrations, driving release and supporting QA testing. Designed and developed the Reference Data Management system using Java EJB web service accessed via a C# client.

Environment: C#, WinForms, VB, Java, VC++, Remoting, Web Services, WCF, WPF, ASP.NET, COM/ATL, EJB, WebLogic, J2EE, Corba, TIBCO EMS, Visual Studio2008, 10, 13 Sybase, Oracle, Eclipse, SVN, Odyssey, Agile, Cruise Control, Jenkins, TeamCity, Jira, Confluence, LCR, EMIR, LCH, UTI/USI

Gain Capital – Forex.com

Bedminster, NJ

12/07 – 10/09

Lead Developer /FX FIX Analyst

Foreign currency server-side trading systems lead developer for the FIX API server and MetaTrader server. The FIX Server written in C# and built upon the QuickFIX engine translates both order and market data FIX messages to interact with the internal order management system and liquidity providers, handling several thousand simultaneous client spot

trading accounts. Improving the FIX API performance was a priority achieved by reducing market order transaction times to approximately an eighth of the original time. Customize MetaTrader Server by developing VC++ DLL plug-ins, COM/ATL Servers and C# WinForms and Services allowing the capturing of trade data, feeding of market data information and management of user accounts and CCY Pair Roll data.

Environment: C#, FIX, QuickFIX, SQL Server, VC++, COM/ATL, TIBCO EMS, Thread pools, Generics, STL, MSMQ, Visual Studio 2003, 5 & 8, SS, TFS

Citigroup - Lava Trading

New York, NY

5/07 – 11/07

Senior Software Developer /FX FIX Analyst

Develops and supports interbank feeds for Foreign Exchange trading systems (Spot, Forwards, and Swaps). Interbank institutional trading and support group liaison requiring constant communication. Most recent project involved providing liquidity to a much greater number of entitlements based trading client systems. As with previous projects, FIX messages were sent and received to institutional bank liquidity providers via TCP/IP sockets while conversions to a FLEX protocol (similar to FIX) were performed then pushed into the Common Gateway internal systems using message queues. The Order Management System requested orders via queues that were then converted to FIX and sent through socket connections to liquidity providers responding with execution reports followed by the OMS required acknowledgements. The framework handled TCP/IP Sockets, I/O Completion Ports, thread pooling, queues, unresolved trades, fault tolerance and memory management.

Environment: VC++, STL, C#, FIX, FLEX, Visual Studio 6 and 7, SQL Server, MQ, XML, UML, TFS, design patterns

Hold Brothers, LLC.

Jersey City, NJ

8/04 – 4/07

Software Developer/Analyst

Support, develop and maintain high-performance high-availability applications for day traders and the firm. Applications include Risk Manager Client, Trade Position Server, and back office clearing and reporting applications. Eighty Risk Manager Clients connect via sockets to several distributed Position servers communicating with the trading software client and order handlers to automate risk management using multiple threads, Berkley Sockets, ADO, STL and COM/ATL. Some features include trading restriction triggering and order management, and reporting and enforcing the active monitoring of the risk management client.

Environment: VC++, MFC, STL, C#, Visual Basic, Visual Studio 6 and 7, COM/ATL, SQL Server, MSMQ, Excel API, SQL Server, FIX

Ancilla Software, Inc.

Camden, NJ

5/02 – 8/04

President and Project Engineer

A corporation that started out developing custom software solutions to interface with laboratory analytical instrumentation equipment. Ancilla Software evolved into a provider of productivity integration services and software development solutions.

As the founder, president and only employee, responsibilities included forming the company, sales and marketing, product design, development and testing, payroll, taxes and invoicing, forming strategic alliances, contract negotiations, and project management.

Projects include:

- Convert a Php, Dreamweaver and MySQL web based training site to require logins and passwords and maintain state throughout user sessions;
- Develop a process tracking system consisting of a C# windows service gathering local user PC processing information and a C# web service server to process the periodically uploaded XML datasets from the clients;
- Develop a custom online application for landlord registration services running on Slackware using PHP, Perl, MySQL, ODBC, and MS Access linked tables providing real-time processing, cost effective value added City Services to the end users and to City employees. PHP was used to create time expiring cookies for session security and logging. Perl along with embedded SQL was used to update and select database information;
- Develop and license the software product Jenware to interface and operate analytical measurement instrumentation equipment from a PC. Software permitted a PC to interface with a spectrophotometer and display the results in various graphic forms and data grids developed using VB, and VC++ with ATL/COM add-on components;
- Develop an online employee timecard server running Linux Slackware 9.0, Perl and MySQL, and C# client forms accessing the MySQL database using ODBC;
- Develop a VC++ application using ODBC and stored procedures to interface with BPCS in both online and batch processing in order to route totes via conveyor belts to the packing stations and shipping lanes

based on the newly designed business process of bulk picking orders and made changes in the AS/400 in RPG/400 in order to implement new directed picking displaying pick locations on the wrist scanners.

Computer Sciences Corporation

Marlton, NJ

2/00 - 5/02

Lead Software Engineer - Consultant

Project Lead for the analysis, design, maintenance, development, and testing of Workfolder, JCALS is a global data management system supporting three military services and streamlining the job of developing and maintaining weapons systems. JCALS stands for Joint Computer-aided Acquisition and Logistic Support. Day to day responsibilities included providing maintenance, design and new developing functionality to a system providing an integrated electronic product shared data working environment across multiple sites. Workfolder, similar to the Microsoft Window's File Explorer application acts as the user interface to the shared data using version controlled references to files stored in an Oracle distributed database environment. The Workfolder front-end client is developed with Visual C++ and MFC running on Windows clients and the back-end uses an Oracle distributed database running on HP Unix servers. Performed Detail Design, Time/Resource project estimates, Delegated and distributed work tasks among development team members. Coordinated the design, development and testing phases by regularly holding meetings.

Environment: Visual C++ 6.0, VSS, MFC, SDK, COM, Oracle, PL/SQL, Stored Procedures, HP/UX, SunOS, crontab, sh, AFX messaging, call back functions, smart pointers, Vi, MS Word, MS Project

Telesciences, Inc.

Mt. Laurel, NJ

1/98-2/00

Software Engineer - Member Technical Staff

Member Technical Staff created the Generic Element Library Information Server, a web based viewer interacting with two design tools and a repository; Teamwork, Object Team and RCS extracting design models and code for viewing and printing with JavaScript and Perl. Project Lead coordinating, tracking and reporting progress of a web based timecard and problem tracking system. Responsibilities included providing a prototype using Cold Fusion and designing the system architecture and oracle database model. Install the HP-UX OS, and Oracle 8i using raw partitions, mounting, NFS. Port Oracle 7.3 to 8i, backups, and maintenance.

Member of team designing Telesciences' next generation telecom billing system. Tasks included performing object-oriented analysis and design using UML and Rational Rose CASE tool and researching ways of augmenting Rose C++ code generation capabilities to produce output compatible with ATL/COM. Visual C++ was used to create ATL/COM server components from the generated code and Visual Basic was used to test the component DLL.

Environment: Rational Rose, VC++, ATL/COM, Auto Pointers, windows services, IDL, VSS, Win NT, Terminal Server, Load balancing, Citrix Metaframe, MS Project, Cold Fusion, ODBC, Oracle (7.3,8i), PL/SQL, Sql Plus, Perl, JavaScript, HP/UX, Vi, chmod (sticky-bit), Frame Maker, RPM installation and management

Philadelphia Stock Exchange

Philadelphia, PA

6/96-1/98

Programmer Analyst

Team member designed, developed and tested real-time, client server applications for the Equity Trading Systems in Financial Automation using C for VOS running on a Stratus fault tolerant system using an API and a Real-time debugger. On-call support shifts for Stratus and Sun systems consisting of early morning coverage, core coverage and end of day procedures. Actively participated in Design and Code reviews of core system components. Represented Equity Trading Systems by attending weekly departmental meetings in order to update and share information between the different Exchange groups.

Environment: VOS, Stratus, Interbase RDBMS embedded SQL, C, Sun/Sparc, SunOS, X-Windows, bash, csh, Network Express, X.25, Vi, Emacs

EDUCATION:

Rutgers University, College of Engineering

BS Computer Engineering

January 1996

New Brunswick, New Jersey