Charles S. Assaf MSc. IT
Software Architect and Developer

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Summary

I am a software architect and full-stack software developer with more than 35 years of experience, specializing in interface and API development, Wordpress web and mobile development, database design and modelling, image manipulation and technology mentorship across various industries.

Most recently I have been working with some online retailers to improve the client user experiences, and a Netherlands based package shot image provider creating image validation and upload services and Zoho based client front ends. Prior to that, with VDP Capital, a Forex trading business in the US, where I've developed some MQL5 based trading algorithms as well as client front-ends and back-end account management and fund management systems in Wordpress, PHP, MySql and Javascript. Previously I worked with Blue Ventures, a UK based marine conservation group that is focused on protecting marine biodiversity, and Community Empowerment Lab, an Indian research organization that carries out research for the World Health Organization. For these two projects, I have designed and built data models, related data capture tools, as well as web based front-end analysis tools in support of their ongoing research efforts, all using PHP, MySql, Wordpress and Javascript.

Before I became a freelancer, I have worked with both start-ups and established companies in roles ranging from Chief Technology Officer (Velloe), Consulting Practice Manager (Schlumberger), Business Analyst (RPM), Program/Product Manager (Atos, Schlumberger, TD Waterhouse), Chief Systems Architect (TD Waterhouse), to Software Developer (Velloe, TD Waterhouse, RPM).

In 2006, I earned a Master of Science degree in Information Technology from the University of Liverpool with a dissertation entitled "Secure Delivery of Syndicated News Feeds", and have completed the Canadian Securities Course, in 1983 and again in 2005.

Originally from Toronto, Canada, I have extensive international business experience over the last 20 years, freelancing with international clients while living in South Africa; guiding a team of developers in India for RPM Technologies; managing projects and consulting teams for Schlumberger across North America, Europe and Southeast Asia; developing new business units in Europe for Atos; and establishing a software outsourcing consultancy in India.

In 2013 I relocated to Cape Town, South Africa and subsequently co-founded Velloe Inc. with a former business associate located in Toronto. I acted as the Chief Technology Officer, software architect and primary developer, and was responsible for the design, development and implementation of its web services, mobile apps and web clients and Amazon Web Services infrastructure, until January of 2016.

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Skills & Expertise

Expertise
Software Architecture
Full-Stack Software Development
Solutions Architecture
Systems Integration
IT Strategy
Database Design and Modelling
Financial Services
Ecommerce
Mobile Applications
Booking Management
B2C Marketing
Business Development
Consulting Management
Product Management
Project Management
Programme Management
Business Analysis

Technologies and Platforms
Amazon Web Services (AWS)
Cloud Computing
Xcode (MacOs and IOS)
Appcelerator Studio
Xamarin/Visual Studio Mac
Visual Studio Code
AndroidStudio
Apple App Store
Google Play
Zoho Creator
WordPress (Custom code and Plugins)
Enfold/Avida/DIVI WP Theme Customization
Gravity Forms
Woocommerce
Google Map, Mail, Chart APIs
JSON, XML, AJAX
Linux Server Administration
apache/nginx/IIS
Bash Scripting
MySQL / MariaDB / AWS Aurora
MSSQL

Languages
C++ and MQL 4/5
PHP
C#
Java
Swift
JavaScript
Transact/MySql SQL
Zoho Deluge Script

Frameworks
jQuery/jQuery-Mobile
lodash/underscore
Bootstrap
jqWidgets
QueryBuilder
Sencha extjs
Symfony 2
Propel ORM
Asp.net

Methodologies
Agile
Scrum

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Work History

Freelancer

This is IT, Cape Town, South Africa
February 2016 to present
This is IT is the informal name for my freelancing activities with clients having included Xxtract, Duned In Tours, Taffrih, TestPrepSkills, VDP Capital, Blue Ventures, Community Empowerment Labs, Imperial Enterprises, Composite Apps, Anja Medau, Wilson Carpenter, Sebogodi Attorneys, Jayé Keyz, and StudioCooper.

President

Harley-Bass Inc., Toronto, Canada
September 1994 – January 2016
Harley-Bass was a Canadian based consultancy that encompassed my software development activities, where I provided custom and bespoke full-stack software development and business technology consulting, specializing in mobile and web applications, RESTful APIs, ecommerce systems, booking management systems, transaction processing, financial services solutions, real-time data delivery systems and automation systems.

Clients have included Velloe Inc., RPM Technologies, Gmarkets, PC Quote Canada, TD Bank Financial Group, Merrill Lynch Canada and SQI Diagnostics.

Products released under the Harley-Bass name include MyCompany™, SteakGuys™, and MarketWall®.

Chief Technology Officer

Velloe Inc., Cape Town, South Africa
August 2013 – January, 2016
As CTO, I was responsible for the design, development and implementation of Velloe's mobile and web applications, web services and high-availability Amazon AWS based cloud infrastructure.

Velloe was originally conceived as a Booking Management system for small to medium sized businesses, however this focus changed in late 2015 to have it serve as a business directory service for socially responsible businesses, charities and like-minded consumers. Velloe has since ceased operating.

Work History (continued)

President & CEO

Infintx Software Private Limited, Mumbai, India

July 2011 - June 2013

Infintx Software Private Limited was my Indian co-venture, which developed and sold financial services software including loan management solutions for the microfinance industry, as well as high performance solutions for the delivery of real-time securities market data and financial information. It also provided offshore software development services for overseas clients and outsource software development for local Indian clients, engaged primarily in financial services, and those looking for mobile solutions. Upon my relocation to Cape Town in 2013, Infintx ceased operations.

Securities Consultant

RPM Technologies, Toronto, Canada and Mumbai, India

March 2007 – July 2011

As the company's Securities Consultant (Project Manager and Senior Business Analyst), I was responsible for the design of the company's flagship R- Desktop brokerage front office and R-Broker back office platform, supporting real-time trading and P&L, order management, routing and execution, margining and clearing/settlement of Equities, Options, Fixed Income, Mutual Funds and Term securities. In 2009, I relocated to Mumbai, India to oversee the development of a new client UI for R-Desktop. RPM Technologies provides high performance front and back office processing for Banks, Wealth Managers, Mutual Funds, Investment Counselors and Securities Brokers.

Head of Technology

Standard Securities Capital Corporation, Toronto, Canada

September 2004 - September 2005

Standard Securities was a boutique stock brokerage firm, where I managed all aspects of their technology, systems and software.

Director, RFID Program, Atos Origin Global Consulting

Atos, Brussels, BE

January 2004 - May 2004

Atos is a global systems integrator where I launched a global RFID consulting programme after SchlumbergerSema was purchased by Atos Origin from Schlumberger.

Work History (continued)

Global Practice Manager, Wi-Fi Technical Consulting

SchlumbergerSema, Montreal, Canada/Houston, TX, USA/London, UK/Paris, FR

March 2002 - December 2003

SchlumbergerSema was the systems integration unit of Schlumberger and was acquired by Atos Origin at the end of 2003. While with SchlumbergerSema, I was responsible for the creation of a global Wireless Technical Consulting Practice that was focused on the secure deployments of wireless networks and enterprise applications for Schlumberger's customers in the Oil and Gas and Telecoms industries. I worked extensively with Hutchison Mobile in preparation for their launch of the 3 Mobile network in 22 countries around the world, directing teams of consultants to deploy 3's Products and Security Services infrastructure.

Director, Wireless Solutions Architecture

Schlumberger, Montreal, Canada/Houston, TX, USA

January 2001 - January 2002

Schlumberger is a global Oilfield Services company which, at the time, was also the world's largest supplier of SIM cards via its Schlumberger Network Solutions division and also provided technology and network solutions to its customers in the Oil and Gas industry. After PCS Innovations was acquired by Schlumberger, I was assigned to Schlumberger Network Solutions, which was subsequently merged with Sema Group (also acquired by Schlumberger Network Solutions) forming SchlumbergerSema. I was responsible for design and development of wireless solutions targeting Fortune 500 companies, Government and global Telecom companies.

Director of Professional Services

PCS Innovations Inc., Montreal, Canada

July 2000 - January 2001

PCS Innovations was a startup company building Smart Card, SMS and Mobile Financial Services solutions, and was acquired by Schlumberger Network Solutions in 2001. As Director of Professional Services, I was responsible for the company's mobile application solutions and strategy and developed 2 processes involved with mobile data interchange that were subsequently patented by Schlumberger after its acquisition of PCS.

Work History (continued)

Chief Systems Architect

TD Waterhouse, Toronto, Canada and Parsippany, NJ, USA
January 1998 - July 2000
I was responsible for design and development of various internal online trading systems, focusing on front- end tools for Investment Advisors and Retail Brokerage Call Centre including Fixed Income Trading systems, Brokerage Account Management systems, Market Data Distribution systems and contingency systems for Y2K crisis operations and management. I was also extensively involved in the technology interoperation and integration between TD Green Line (now TD Waterhouse) and Waterhouse Investor Services, after TD's acquisition of Waterhouse Investor Services.

Product Manager

Toronto Dominion Bank, Toronto, Canada
January 1994 - December 1997
I was responsible for internal product related activities, including Data Warehousing and conceptualization, design and development of FIRES (Fixed Income Retail Entry System), for use by TD Green Line Investor Services agents and TD Evergreen investment advisors (now collectively known by the brand TD Waterhouse).

Systems Analyst

Toronto Dominion Bank, Toronto, Canada
May 1992 - December 1993
Upon starting with TD Bank, I was first involved with Development and Operational Support group providing technology operations for TD's Green Line Investor Services business unit. I was responsible for the analysis of various internal processes leading to software development and programming assignments to improve upon those processes.

Product Planner

Dataline Inc. (CANQUOTE), Toronto, Canada
October 1988 - July 1990
I was involved with the Product Planning group for Canada's largest market data provider at the time, devising new products to disseminate financial market data to the Canadian securities industry.

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Investment Advisor (Registered Representative)

Davidson Partners Limited, Toronto Canada

January 1985 - September 1988

I completed the Canadian Securities Course in 1984 and assumed the dual role of Investment Advisor and Computer Systems Coordinator until 1985, whereupon my responsibilities shifted to 100% investment management. I managed the accounts of my clients valued up to CAD $5M, where I became most familiar with the trading of Equity and Derivative products (Options and Commodities) and facilitated corporate finance with various companies seeking to raise equity financing through the firm's Corporate Finance department by way of new IPOs and Private Placements.

Computer Systems Coordinator

Davidson Partners Limited, Toronto Canada

January 1983 - December 1985

As Computer Systems Coordinator, I was responsible for managing the night operations consisting of keypunch staff who would physically type in the trading activity from the day into the system every evening, and a computer operator who came in at midnight every day to conduct the printing and distribution of reports overnight. I was developed a Loan Post system (client securities on deposit with the firm were regularly loaned out to other brokerage firms to cover their short trades, and vice versa, securities were regularly borrowed from other brokerage firms to cover our short trades). This system provided daily reporting indicating where securities were loaned to/borrowed from, the interest rates charged on these loans, and the net collateral values on a firm by firm basis.

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Education

University of Liverpool, 2006

Degree of Master of Science, Information Technology

Canadian Securities Institute, 2005

Canadian Securities Course (2004 Syllabus)

Investment Management Techniques

Conduct and Practices Handbook

Ryerson University, 1988

Marketing Management

Canadian Securities Institute, 1984

Canadian Securities Course (1984 Syllabus)

Canadian Securities Options Course

Registered Representatives Manual

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Solutions and Applications Developed

2018 Client Portals and Back-End (VDP Capital)

Private Web Site

VDP Capital provides Forex trading services for private clients. I have built 2 versions of a Client Portal, both of them capable of being white labelled. Version 1 is currently in use with 3 different Forex trading operations, and supports the management of Clients, Accounts and Fund types including traditional Forex and cryptocurrencies such as Bitcoin, Ethereum, Litecoin, Ripple and Tron, as well as Notification Management. It also has integrations with Stripe and Plaid for payment processing. Version 2 is a leaner version that supports Clients, Deposits, Withdrawals, Documentation Management and Notification Management, in addition to an embedded MetaTrader 5 terminal where clients may view their assets in real-time. It is also integrated with Hellosign for Contract viewing, signing and execution. Contracts are dynamically created when a client registers on the version 2 Portal.

2017 – 2018 Data Model, Front-End UI and Data Importers (Blue Ventures)

Data Model and Import Tools

Blue Ventures is a UK based marine conservation focused on the protection of marine biodiversity around the globe. I have assisted them in their efforts to streamline and modernize their Mission/Expedition planning processes with a logistics management system integrated with their internal ERP system, as well as data collection techniques by providing unified data models and import processes using PHP, Javascript and MySql to consolidate the collection of their data from various locations around the world.

2016 – 2017 AWS Web Service and Data Model (Community Empowerment Lab)

Private Web Service and Data Model

CEL is community-entrenched global health research and innovation organization based in northern India led by Dr. Vishwajeet Kumar. A new data model was created for CEL and implemented in Amazon Web Services on MySQL with an associated PHP based application web service API using Propel ORM, and HTML5 front end for the collection, analysis and dissemination of information related to studies for the World Health Organization.

Solutions and Applications Developed (continued)

2016 Tallee (Composite Apps)

Commercial Mobile Application
Bar Inventory System consisting of an apache/MySQL based RESTful PHP web service API using Propel ORM; HTML5 front end web application using jQuery and jQuery-Mobile, underscore.js, Bootstrap.js, owl.carousel, NoUISlider; iOS wrapper in Xcode/Swift 2.0; Android wrapper in AndroidStudio/Java.

2016 IE LogoWords (Imperial Enterprises)

Custom Logo Application for a Corporate Web Site
Conversion of a jpeg logo image to an interactive and animated HTML5 application consisting of a JavaScript application using jQuery.

2013 – 2016 Velloe (Velloe Inc.)

Commercial Web Site and Mobile Applications
Phase 1: Online Booking System implemented on Amazon Web Services for Small-Medium Sized Enterprises consisting of a Ubuntu/apache based RESTful PHP web service API connected to an RDS Aurora/MySQL database; WordPress based responsive HTML5 front end web application and WordPress plugin for User Registration, Business Services Portal and embeddable widgets; Appcelerator Studio/JavaScript based iOS and Android client applications.

Phase 2: Conversion of core Registration and Business Services Portal to a registration and management system for Socially Responsible Businesses and Charities.

2012 – 2013 PC Quote Ticker Plant (PC Quote Canada)

Private Ticker Plant for Financial Services and Professional Trading Companies
Java based high performance, low latency ticker plant engine with a .Net/IIS/MSSQL based RESTful web service API for real-time enquiry/response streaming of financial market data feeds from North American Financial Exchanges and financial data feed consolidators.

Solutions and Applications Developed (continued)

2012 Gmarkets Web Site (Gmarkets Inc.)

Commercial Web Site

.Net/IIS/MSSQL based web site for real-time display of Gmarkets' proprietary fixed income and money market data, and benchmark rates and news scraped and databased from global central banks. Plugin created for embedding Gmarkets proprietary data on the TMX Markets web site.

2007 – 2011 R-Broker (RPM Technologies)

Corporate Brokerage Back Office Account System

.Net/IIS based web front end providing access to RPM Technology's brokerage back office accounting engine, providing client, account and portfolio management capabilities for retail financial representatives.

2003 Products and Security Services (SchlumbergerSema for 3 Mobile)

Commercial 3G Network Security Layer

Program management of the integration and global rollout of SchlumbergerSema's security management solutions for 3G networks for (then) Hutchison Mobile's new 3G network, now known as '3'.

2001 – 2003 Enterprise Office Suite (SchlumbergerSema)

Corporate Application Suite

First generation secure office suite solution (email, calendar) using Sun Microsystem's core applications for Email and Calendaring. Applications featured encrypted access/content and were provided to US Government agencies, and global Oil and Gas companies, using Blackberry and Compaq iPAQ devices.

1996 – 2000 FIRES - Fixed Income Retail Entry System (TD Waterhouse)

Corporate Desktop and Web Application

.COM/.Net/IIS based system providing real-time access to TD Bank's fixed income inventory for the searching, purchasing and sale of fixed income products by retail brokerage agents and clients.

Solutions and Applications Developed (continued)

1995 – Data Warehouse (TD Bank/TD Waterhouse)

Corporate Back End

Beginning with a White Paper on Data Warehousing, I led the design of a Data Warehouse to denormalize client and trading data stored in an IBM DB2 database into a MS SQL Server database and related data cubes for specialized usage in the bank.

1984 – Loan Post System (Davidson Partner Limited)

Corporate/Commercial System

Loan Post system (client securities on deposit with the firm were regularly loaned out to other brokerage firms to cover their short trades, and vice versa, securities were regularly borrowed from other brokerage firms to cover our short trades). This system provided daily reporting indicating where securities were loaned to/borrowed from, the interest rates charged on these loans, and the net collateral values on a firm by firm basis. The system was used by Davidson Partners and also licensed to another brokerage firm in Toronto.

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Honors and Awards

2003 - Schlumberger - SchlumbergerSema - "President's Silver Award"

Programme Management of the "3" Mobile Network Product & Security Services platform.

1993 - TD Bank - Systems Research and Development - "The Best Award"

Development of the RR Workstation

1987 - Davidson Partners Limited - "President's Club"

Achieving the highest tier in brokerage commissions earned for the firm.

Patents

Method and Apparatus for Securely Transferring Wireless Data

United States Patent Application 20030072451 (assigned to Schlumberger)

Decreasing Bandwidth for Wireless Data Interchange

United States Patent Application 20030163 (assigned to Schlumberger)

Publications

Secure Delivery of Syndicated News Feeds

University of Liverpool 2006, Masters Dissertation

Security Within a Mobile World

GSM Daily, 3GSM, Article on Mobile Security for 3GSM 2003 Conference