Curriculum Vitae

PERSONAL DETAILS

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Availability: Februrary 2014

SKILLS SUMMARY (Years of commercial experience in brackets)

Languages:
- C++ (16)
- Tcl (2)
- C (6)
- SQL (2)
- Ada (1)
- JOVIAL (US DOD Language) (2)
- Coral 66 (MOD language) (7)

Skills:
- Market Risk (6)
- Market Data processing(2)
- Foreign Exchange (0.5)
- fidessa trading platform(2)
- Multi-threading unix applications
- Air Traffic Management (4)
- Object Oriented Analysis and Design
- Systems analysis and requirements capture.
- Real-Time Design.

Hardware:
- Sun Workstations and Servers (9)
- HP-UX Workstations and Servers (1.5)
- Intel based PCs
- TCP/IP network
- IBM RISC 6000 Workstation (1.5)
- IBM Mainframe (2)
- VAX and microVAX clusters (9)
- Assorted Ferranti computers. (8)

Methodologies:
- Universal Modelling Language(UML) (2)
- Yourdon (3)
- OOD (Object Oriented Design) (15)
- SSADM (1)
- MASCOT (7)

Operating Systems / Software Products:
- Various flavours of unix (Solaris, HP-UX, AIX and Linux) (18)
- Visual Studio 2010 (0.5)
- *fidessa* trading system (2)
- Exposure to other *fidessa* products such as OpenAccess, OMAR, EMMA and FDA
- Reuters SFC class library (1)
- CDE, Motif and X-Windows (6)
- Rogue Wave/STL/Boost Class Libraries (10)
- Oracle (2)
- Sybase (3)
- Rational Rose (1.5)
- Purify (5)
- Select Software Factory (UML and Business Process Modelling tool)
- TeleUSE (GUI Builder for Motif Applications) (2.5)
- VAX/VMS (9)

Certifications:
- Brainbench (www.brainbench.com) transcript Id 4876793

PROJECT EXPERIENCE (In reverse historic order)

Contracting	Aztec Data Limited	Main Skills Used
Aug 2013-Feb 2014	BNP Paribas	Visual C++, STL, boost, multi-threading, Oracle, Foreign Exchange, Windows
Nov 2009–Mar 2013	Royal Bank of Scotland	C++, STL, unix, linux, Sybase, multi-threading, patterns, Market Risk, VaR Shared memory
Sept 2008–Nov 2009	Deutsche Bank	C++, Visual Studio, STL, boost, unix, multi-threading, patterns, Market Risk, VaR
June 2006–Sept 2008	Royal Bank of Scotland	C++, STL, unix, Sybase, perl, multi-threading, patterns, Market Risk, VaR
Nov 2004-April 2006	Credit Suisse	C++, STL, unix, Oracle, SQL, PL/SQL, Sybase, Reuters, multi-threading
Nov 2003- Oct 2004	Various	C, C++, Windows 2k/XP/server, Linux, UML
Sept 2003-Oct 2003	Royal Blue Financial	Various *fidessa* modules, Solaris, NT
Nov 2002-Aug 2003	Various	C, C++, Windows 2k/XP/server, Linux, UML
Oct 2000-Oct 2002	Royal Blue Financial	Various *fidessa* modules, C++, TCL, Solaris
Oct 1998-Sept 2000	British Airways/ICL	C, C++, Solaris, Oracle, UML, NT
May 1997-Oct1998	EDS Defence Ltd	HP-UX, C++, NT, UML, Motif, ILOG
Oct 1995-May 1997	Lockheed Martin UK	C, Ada, Motif, TeleUSE, AIX, Teamwork
June 1993-Sept 1995	National Air Traffic Services	Jovial, IBM 370 assembler, Yourdon, Stp
Dec 1992-Jun 1993	General Dynamics UK	C, Ada, Motif, TeleUSE, HOOD, Sybase
June 1992-Dec 1992	British Telecom Research Labs	C, C++, Solaris, Motif, TeleUSE, Oracle
May 1991-Mar 1992	Joint venture with Netsolve ltd	C, C++, Windows, Netware, SSADM
Jan 1990-May 1991	Ferranti Naval Systems	Coral 66, assembler, Vax/VMS, MASCOT
Permanent	**SD-Scicon (now EDS)**	
Dec 1989	Ministry of Defence	Oracle
Mar 1989-Nov 1989	NATO/Hughes Aircraft Systems	Discontinued Systems Analysis CASE tool
Sept 1988-Mar 1989	Swedish Meteorological Office	Tandem, TACL, TAL, Enform
Sept 1984-Sept 1988	Ferranti Computer Systems	Coral 66, assembler, Vax/VMS, MASCOT
Mar 1983-Sept 1984	Ferranti Computer Systems	Coral 66, assembler, Vax/VMS, MASCOT
Permanent	**Plessey Company (now Bae)**	
Sept 1979-Feb 1983	Ptarmigan	S250 Assembler, Intel 8051 assembler

Only projects from 2004 are expanded in this document. Further details on the remaining items, education or training, are available on request or from the full career history on the website.

Trading as Aztec Data Ltd (Jan 1990 - Present)

Project 1.   **FX Trade Capture System**
Client: BNP Paribas, Marylebone
Duration: Aug 2013 – Feb 2014

Description:
    FXT is a Foreign Exchange deal management system (covering Spots, Forwards and Swaps), deals may be entered manually (via a GUI application), or via various importer processes. A number of exporter processes are also maintained, so that interested parties can be notified when a deal has been processed. FXT runs in four major financial centres world-wide. Software is based on Visual C++ with Oracle and Sybase databases.

Responsibilities and Achievements:
1) Member of the FXT development team, implementing bug fixes and performing technical testing of issues resolved by other colleagues.
2) Upgraded one of the existing data exporter components to multi-threaded operation, significantly increasing throughput.
3) Refactoring message handling code in a number of components to give a more consistent interface.

Project 2.   **Market Risk (VaR) Calculation Engine**
Client: Royal Bank of Scotland, Bankside
Duration: Nov 2009 – March 2013

Description:
> Over the course of this project, a number of business critical improvements were made to the client's universal Market Risk calculation engine (UniVaR). The central component is a multi-threaded C++ application, that originally ran on Solaris 10 and interfacing to a Sybase database and a FAME time-series database. It has subsequently been successfully ported to Linux. The main VaR engine is supported by a number of other programs and web applications written in languages such as C++, java, shell scripts and perl. The design is exceptionally complex and uses a number of sophisticated techniques and design patterns.

Responsibilities and Achievements:
1) Technical Team Leader for the C++ developers, having overall responsibility for the quality of the C++ code for the unix based components, particularly the main calculation engine.
2) Interviewing and mentoring new starters to the C++ team, based in London and India.
3) Discussing requirements with the business users, preparing functional specifications and estimates. Offered advice and recommendations on alternative implementation strategies.
4) Supporting business users with the acceptance testing and deployment of new functionality, often being called upon to investigate and explain unexpected VaR results.
5) Designed and implemented the Stressed VaR calculation which is a new regulatory addition to the daily Capital Charge Calculation.
6) Designed and implemented improvements to the Scenario and Stress Testing functionality.
7) Designed and implemented a number of enhancements which allow the Market Data team to safely trial a number of proposed changes to reference data, in a production environment, without impacting other production users.
8) Reduced the overall memory footprint by introducing shared memory for storing large data structures needed by multiple processes.
9) Rolled out a number of major and minor code releases into production, with particular emphasis on performance and resilience, as the client base and traffic had multiplied several times over during the last couple of years.
10) Fault diagnosis and rectification, assisting the Market Risk IT Production Support team on a number of production issues. While interacting with the support team a number configuration and monitoring utilities were created to assist common problems.

Project 3.   **Market Risk (VaR) Calculation Engine**
Client: Deutsche Bank, City
Duration: Sept 2008- Nov 2009

Description:
> This project involved the maintenance of, and significant enhancements to, the client's corporate Market Risk calculation engine (EDGE). The core began as a single-threaded C++ application, running on Suse Linux and interfacing to a Sybase database and a FAME time-series database. The design was every bit as complex as the RBS UniVaR application although it used a different range of techniques and design patterns, with particular emphasis on XML. In 2009, the main application was redesigned to support a staged migration to a multi-threaded service oriented architecture.

Responsibilities and Achievements:
1) Member of the Methodology team in the Market Risk IT group.
2) Collaborated with members of the Quant team to optimise performance of the in-house library that supported non-normal statistical distributions. Whilst it was mathematically correct, the runtime performance was grossly inadequate for production use. The quants were responsible for the basic mathematical functionality, while I did profiling and tuning of their work. Over a period of time, an approximate 5x speedup was achieved.
3) Replaced a number of bespoke classes and objects with open source equivalents such as STL and boost, as part of the re-architecting process.
4) Converted several of the adapter classes that connected the internal XML structures with the database, to use the new SOAP services rather than the Oracle client interface.

Project 4.   **Market Risk (VaR) Calculation Engine**
Client: Royal Bank of Scotland, Aldgate and Islington
Duration: June 2006- Sept 2008

Description:

This is the same as project 1 described above, and had much the same responsibilities. After the original system architect left the project, a shortage of in-house C++ and unix expertise, had caused a growing backlog of fixes and enhancements, some of which had become critical. The client had already deployed some senior developers onto the project but, as their experience was mainly windows based, it was necessary to bring in some external assistance.

Responsibilities and Achievements:
1) The same responsibilities as project 1, plus the following:
2) Redesigned the Idiosyncratic Risk processing of the main calculation engine.
3) Re-architected the management of static and reference data within the calculation engine.
4) One of 2 key players that ported the suite from Solaris 8 to 10, and different hardware.
5) Cleaned up the source code repository, as previous lapses in configuration control meant that some executables that had been in production for a number of years, could not be reliably regenerated from the code base.

Project 5.   **Tick Data Subscription Processing**
Client: Credit Suisse, London Docklands
Duration: Nov 2004-April 2006

Description:

This assignment had two distinct phases. The first was a speculative project (MAGNI) intended to store up to 3 years worth of market data, in a single unified format, for eventual re-sale. Data arrived from a number of sources, and over time, it was planned to cover the majority of the world's exchanges. There were varying levels of coverage and quality, depending on the individual exchanges, so it had to be converted into a common internal format. Data arrived in a mixture of flat files and real-time data feeds.

This formatted data was then exported to an external data specialist for further enrichment and compression before being ready for sale to a number of internal and external clients. As it was a Greenfield project with very challenging deadlines, the 2 man team were given a complete free hand within the constraints of the externally agreed interfaces, and the spirit of the initial architecture.

The second phase focussed on the production application (THOR) that was the preferred source of tick data for several critical business applications. As well as storing the raw market data, the application attempted to add value, such as matching trades to movements in the order book. The main requirements were to: implement client requests and bug fixes, re-factor and improve the current code base.

Both programs were written in C++, and the processed data stored in an Oracle database with end user access controlled by stored procedures. Perl and PL/SQL was used to write various supporting scripts and utilities.

Responsibilities and Achievements:
1) Designed and implemented various bug fixes and enhancements in response to end user requests, particularly introducing index futures contracts for a number of exchanges.
2) Analysed and re-factored the current implementation, to improve maintenance, performance and future extensibility.
3) Liaised with developers and end users in the APAC, American and European regions.
4) Carried out extensive User Acceptance Trials for the New York, London, Hong Kong and Singapore development systems, prior to putting major releases into production.