**Curriculum Vitae**

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**Additional** British citizen with passport, full driving licence, French speaker.

**Summary**

I do what is required to achieve the desired goals, even if it falls outside of the scope of my defined role. I work cooperatively as part of a team, liaising between different departments or autonomously when required.   
Able to communicate with clients and company members at all levels (up to board level), whilst relating to them using their own frames of reference. I am a self-starter, unfazed by working in new markets, technologies or with new people. I relish variety and the challenge of designing new systems and integrating new solutions into legacy systems. I have a history of successful delivery and can capture business requirements and translate them through system design to an implemented solution.

**Technical Skill Experience Summary – Languages, Tools and skills**

**Programming Languages**  
Assembler - Z80, 80x86, 6502, 6510, 6800, 6809, 68000, 68010, 68030, MIPS 34K 10 years.  
  
Microsoft BASIC and Visual BASIC 13 years.   
  
C 16+ years  
 Linux – GCC, G++, UNIX – Sun & GCC, AmigaDOS - Manx Aztech C compiler 4 years. Lattice C, Microsoft Windows – Visual Studio, Borland C, Borland C Builder, MS-DOS - PWB, Apple Macintosh System 7 – Think C/Symantec C/C++, Linux CodeSourcery MIPS cross compiler tools.   
  
C++ 20 years   
 UNIX, Linux, AmigaDOS, GEM, Windows, Macintosh and DOS.   
Borland C/C++ – using OWL libraries. 2 years   
Microsoft Visual C++ using Microsoft technologies including: 10 years  
 Win16/32/64, MFC, OLE, ActiveX, COM, DCOM, ODBC, Active Directory and DirectX.  
C# & .NET 3 years.  
MS-DOS - Watcom C/C++ - using Tenberry Systems DOS4/GW DOS extender. 3 years  
Sun Developer Workshop/Forte/Sun Studio 6 years.  
Symantec C/C++ for Windows and Macintosh 3 years.  
Mac OS X – Xcode 2 years.   
Linux C/C++ - using GNU C & C++ compilers and tool chains. 7 years   
Java 1.5 years  
 Windows, Linux and UNIX.   
  
**Databases**  
Oracle – 6 years – Pro\*C 2.5 years.   
Oracle Forms – 6 months.   
Microsoft SQL server – 8 years.   
Microsoft Access – 5 years.  
MySQL – 2 years.  
Berkeley Db – 6 months.  
  
**Scripting Lnguages**Awk, korn shell, Bourne, bash, sed 6 years.  
Microsoft VBscript, JavaScript 2 years.  
Microsoft DOS – batch control language 15 years.  
ESL 6 months  
Perl 2.5 years  
PHP 2 years  
CMake 2 years  
Python 6 months  
 **Web Development**HTML 5 years.  
XHTML 1 year  
XML 6 years.   
XQuery 1 year.  
XSLT 1 year  
Microsoft Active Server Pages (ASP/ASP.NET) 2.5 years.   
Macromedia Flash 3 years  
 **Version/Revision Control Systems**   
CCS/CVS 3 years.  
Rational Clearcase 5 years.  
Rational Clearquest 1 year.  
Merant PVCS Dimensions 1.5 years.  
Microsoft Sourcesafe 9 years.  
Perforce 6 months  
Vault 3 months.  
Microsoft TFS 1.5 years  
GIT/GitHub 3 years  
Subversion 1 year.  
  
**Middleware**BEA Systems Tuxedo  
BEA Systems/NCR TopEnd  
  
**Operating Systems**  
Apple – Mac System 7, 9, OS X   
Digital Research CP/M  
Microsoft - MS-DOS 5 – 7, Windows 3.11 - 10, Windows CE, Microsoft Pocket PC.  
UNIX - SUN Solaris 4, 5, 6, 8, 9, 10.   
Palm – Palm OS.  
Symbian OS.  
Linux – Fedora, Red Hat, SUSE, Ubuntu, Debian.  
  
**Protocols**   
HTTP, TCP/IP,UDP, X.400, X.500, SNMP, ASN.1, SMTP, LDAP, FIX, FIXP.  
SOAP, REST, CORBA, TL1, CMIP.  
Sopcast.  
  
**Architecting/Analysis/Design & Documentation Authoring**  
Sparx Systems – Enterprise Architect v.6.5 2 years.  
Software and System design 20 years.  
Authoring technical specifications 17 years.  
Authoring functional specifications 11 years.  
OOA/OOD 13 years.  
UML 6 years   
Full SDLC 20+ years.  
SCRUM/Agile 2+ years.  
  
 **Work History**

**IRESS** (Wealth management) Project Manager/Senior Analyst Developer 3/2016 – 10/2016  
Conveyed role of project manager increasing customer facing role beyond system design and implementation, smoothing the client transition whilst IRESS found a replacement PM. Managed the scope and requirements of the pen test fixes to meet the end client (Intrinsic) and IRESS technical and business requirements.

* Pen Test Security fixes – Designed, project managed the delivery, managed the client relationship and tasking of other invested third parties. Architected and implemented solutions to a range of penetration test issues to a back office system and web interface. A range of issues were identified across a suite of wealth management software that required solutions to be proposed and implemented. The issues resolved were: clear text data transmission, file upload filtration, reflected and stored cross site scripting (XSS), insecure MS SQL connections, insecure password policy, user privilege escalation, click-jacking, insecure HTTP response headers, overly verbose error messages, no session timeout, session hijacking, (CSS), SQL injection, brute force attack. The technologies used were C++, MFC, C#, VB6, SQL Server, XSLT, XML, Classic ASP, and ASP.NET 4.5.

**IRESS** (Wealth Management) Senior Analyst Developer 8/2015 – 2/2016  
Designed and implemented 2 major new system features to integrate with legacy system. Documented the business process of a back office subsystem for the client (Intrinsic) to clarify its operation.

* Resolve assigned bugs – Determine cause and resolution of selected bugs in Officeweb (back office finance system). Modify MFC C++ (Visual Studio 2010) and SQL Server (2005) stored procedures.
* Document selected system functions – To ensure congruence between implementation of some major aspects of the system and the clients expectations it was necessary to produce summary descriptions of the processes involved.
* Design and Implement logging system –There was no standardized logging system so chose the open source Apache LOG4CXX to integrate into the codebase. The primary use was logging to a custom database table as that was remotely visible to the support team. Documentation was produced to detail the configuration and usage.
* Design and Implement transactional API – Microsoft DTC was used as the core engine as there was no pre-existing transactional API of any kind. Wrapper classes and functions were created to ensure the system was as straight forward to use as possible by developers. Documentation was produced to detail the configuration and usage.

**Steatite (**Government**)** SEMS Developer Team Lead 2/2015 – 7/2015  
Provided cross team support, government & tech. partner consultation. Solely responsible for delivering product on time to the MoJ thus avoiding significant penalty payments to the government for non-delivery. Assumed cryptographic ‘expert’ role due to departure of cryptographic consultant.

* Specified suite of tools – Defined the range of tools required for the full development software lifecycle, design and implementation. Running in an Agile/SCRUM environment.
* Created system and component designs – Created UML and design documents covering: Custom device commissioning process for FOE tablet; Custom firmware for embedded secure communications (using Diffie Helman and PKCS) over RF between FOE, RMU and MAT; device communication simulator between real and virtual device instances; – To ensure congruence between implementation of some major aspects of the system and the clients expectations it was necessary to produce summary descriptions of the processes involved.
* Documented secure key material creation process – Created user level documents to describe how to operate the key creation software in order to create the secure key hierarchy and associated key material to manage and embed in the commissioned devices.
* Documented device commissioning process – Created user level documents to show how to take the key material and use the commissioning process to embed this in the FOE, RMU, MAT and USB dongle.
* Conducted technical/business meetings – Held meetings with the end customer (MoJ) and the prime technical partner (Capita) regarding technical and business impact of solution.
* Passed embedded UML design and code generation course –

**KCSL** (Finance) Senior Analyst Developer 11/2014 – 2/2015  
Created a system design and code for the sub system trading protocol component to a trading platform.

* FIX Protocol Engine – Design and implement a FIXP engine using SoupBinTCP, ASN.1 to deliver high performance, high volume throughput and high availability that is also easy to install and configure. Provide an interface API that is cross platform and usable by scripting languages as well as JAVA, C# and C and C++.

**FriendMTS (**Multimedia DRM & Delivery**)** Senior Software Engineer 06/2012 – 10/2014  
Designed and implemented a scalable, cross platform multimedia delivery system and designed and created a cross platform automated build system.

* StreamTorrent Protocol Analysis – analyse and decode an undocumented protocol (streamtorrent) using multiple techniques: reverse engineering, packet sniffing, fuzzing using: wireshark, netbee, tcpdump, libpcap, winpcap, C & C++ (wrote several Windows and Linux, OS X tools around libPcap), Hex Rays decompiler, IDA Professional.
* Multimedia Delivery System - Designed and wrote a C & C++ Linux based distributed, multi threaded (thread pools - pthreads), multimedia delivery system that delivers streamed and packaged content, eBooks, audio and video. Comprised of many software components and internal and external libraries that may be used independently in other projects as required.
* OFA - Designed and wrote C++ & C code (Linux host) for a content identification and processing system. It identifies file types and analyses and extracts data as defined by a set of XML business rules. Comprised of extensible software components and libraries that may be used independently in other projects as required: file recogniser (built around libmagic), file archiver (built around re-engineered unrar source code and LibArchive library), H264 extraction from MPEG-4 container (written from scratch with no external dependencies), output written in BytesStream format. Handles files far beyond 2Gb.
* Automated Build System - Platform agnostic build system (written around CMake, CPack and CTest and shell scripts) - may introduce system specific instructions if needed. Removes the need to write complex and platform specific makefiles. Multiple platform and build types can be built from a single shared repository of source code. Allows cross platform builds as well as single machine builds. Easily create different builds (e.g. archive libraries, shared libraries and executables, debug, release, different CPU builds etc.) from the same pool of source code. Provides packaging, unit test and continuous integration capabilities.
* NGinX component build - Created a test component to investigate practicality of using it for customised transaction handling of high volumes.
* Tools / API - Linux/UNIX C/C++ Call trace logging tool written in Python and C - outputs XML for invoked code. Allows easy viewing of functions that have been exercised (uses GNU C++ function entry / exit hooks). Cross platform packet analysis tool (dynamically changeable by modifying XML protocol configuration) written using NetBee library. Presentation library written around NCurses to permit easy display of sessions with remote hosts. Designed and wrote tools, written using custom build of FFMpeg and other open source libraries/tools.
* Video Watermarking – Extended a video watermarking API written in C and C++ running on all platforms.

**MeasureSoft** (Oil & Gas) Senior Analyst/Developer 02/2012 – 03/2012  
Added new low level graphic primitives and other features to better comply with the end clients requirements.

* Configurable Monitor changes – fixing bugs and adding new features. This is a client program compiled for Microsoft Windows 7 written in C++ using Visual Studio 2010 using MFC, COM and Win32 to display data for a well head drill site for the gas and oil industry. In addition to bug fixing, added new modes of operation to the application, introduced object grouping, serialization changes, custom drawn objects, object position undo and resource changes to support the additional features.

**Paragon Software** **Systems** (Transport Logistics Mgt.) Senior Analyst/Developer 06/2011 – 11/2011  
Integrated with a team that had no previous exposure to consultants. Enabled support for all international character sets in the core product to allow improved sales in China, Hungary and Japan.

* Convert the company’s routing, scheduling and logistics software to work in World market space. Reworked 150 components ( executables, DLLs and static libraries) for Microsoft Windows 7 written in C++ using Visual Studio 2005 using MFC, ATL, STL, COM and Win32 to work with the Unicode character set. Unit tested and regression tested all components to ensure they worked as they did previously.
* Modify the component software projects properties and settings. Modified the Visual Studio C++ and C# projects, solutions and scripts to add release and Unicode versions of the components into the build system.

**MStar Semiconductor** (Electronics) Senior Embedded Systems Analyst/Developer 10/2010 – 04/2011  
Managed a team of Taiwanese developers. Streamlined the process for building the set top box system software to integrate with the local build environment.

* Document the build and development process for the embedded Linux MIPS digital television (DTV)/set top box (STB) system.
* Create and configure a VMWare Ubuntu Linux virtual machine environment to host DTV build system. Converted the DTV development system from a proprietary development platform and tools to a VMWare Ubuntu Linux host environment, in order to provide a stable, controllable build and development platform.
* Liaised with the Taiwanese DTV development team members to design and develop a real time lightweight embedded logging system. Written in C using Posix threads, semaphores, mutexes, conditional wait and shared memory. Built with the Codesourcery MIPS compiler tool chain, host tested using Linux gcc.
* Extraction of Data Types from C and C++ code by integrating a custom tool into build system. Using GCCXML to parse C and C++ to produce XML that was processed with XQuery script to extract required information and then parsed with an XSLT script to create a preprocessed file for inclusion by in house tool.
* Modified the build system using Bourne and Korn shell scripts to permit building code to execute on the host Linux system as well as the target embedded DTV system.

**My Disability Link** (Healthcare) Senior Architect/Designer/Developer 09/2009 – 10/2010  
Designed and implemented a complete internet based system to integrate a NHS data stream to provide the less able with a useful resource directed for the specific needs.

* Architected, designed and developed a disability focused system with a web front end - for people with disabilities called ‘mydisabilitylink.com. The site was provided web pages served by Apache, using PHP, XML and HTML. Data for the web site was provided dynamically from a MySQL database, which also provided the database backend for the email server, forum software and RSS system.

**Dataseek Limited** (IOS/MacOS)Analyst Developer 07/2008 – 08/2009  
Learnt how to develop for MacOS and IOS platforms.

* Design and develop iPhone applications. Acquired the skills, to design and develop Apple iPhone and iOS applications on the Apple Mac using Xcode 3.0 and Cocoa.

**Bravura Solutions** (Financial) Senior Designer/Developer 06/2008 – 07/2008

* Design and develop a standalone client to view encrypted (using Microsoft Crypto API) Adobe PDF files for Microsoft Windows 2000, XP and Vista using Visual Studio 2005 in C++ and MFC using to encrypt and decrypt the PDF files (rendered with the Adobe PDF API) and an XML file (parsed with the Microsoft XML parser) which was read on startup to configure the viewer.

**American Dynamics** (Video/ Security)Senior Analyst Developer 11/2007 – 05/2008  
Designed and developed several new components as well as rewrote older parts of the system to integrate with Windows Vista.

* Create and configure VMWare virtual machines for testing and developmentof Windows XP, Windows Server 2003, Windows Vista and Fedora Linux.
* Create code for a COM control to draw privacy zones to be embedded in web page – designed and developed a C++ ATL ActiveX control using Visual Studio 2008 which was to render a JPEG image (captured from a streaming video source) and permit privacy zones to be defined upon it and interface to a camera using an in-house developed API to send and receive XML based data.
* Debug and recode Intellex client and server to work with Windows Vista– used a virtual machine to modify configuration and test code changes written in C++ and using COM to the core product base (Intellex, Network Client etc.) in order to port it from Windows XP to Windows Vista. Debugging and changes were required to part of the web server using C# and ASP.NET.
* Develop Embedded Service to interface to ActiveX control - used Fedora Linux and Windows Vista virtual machines to develop the code for the embedded software for a digital video IP camera. The embedded code was mainly written in C with an interface to the DBUS API to pass messages between different processes.
* Debug and reconfigure Windows CE/Pocket PC client.

**IBM** (Tivoli DevelopmentTeam) Senior Designer/Analyst 06/2007 – 10/2007   
Designed and developed a bespoke scripted system to extract contact information from code and documentation to provide a consolidated management report. Required consultation across teams. Completed in 5 months, less than estimated 9 months’ completion.

* Create management report of technology contacts for entire Tivoli product suite. Analysed source code , data and documentation from all repositories across the Tivoli product suites Solaris, Linux, Windows and Symbian platforms from the following Tivoli products using a combination of bespoke UNIX shell scripting, perl scripting and java software. Liaise with worldwide development teams, for the following IBM Tivoli products: Netcool Proviso, Netcool Precision TN, Netcool Precision IP. The products source code was stored in Rational Clearcase and consisted of the following languages and file types: java, javascript, C, C++, XML, MIB files, GDMO files, CORBA IDL files, UNIX shell script, Windows command files. The following network management and communications protocols were used: CORBA, SNMP, TL1, MTOSI, Telnet, web services, ASN.1, CMIP and TCP/IP. Wrote java (Netbeans 5.5.1 and Eclipse 3.3.0) and perl code to analyse the source code and generate reporting information using XML, ANT, SOAP, HTTP (for Apache Tomcat) which interfaced to a MySQL database.

**Fujitsu Services** (Government) Senior Designer/Architect (Security Cleared) 10/2006 – 04/2007  
Reverse engineered code and SQL to create documentation to support the Fujitsu bid for the new passport system.

* Warnings Index Project Review and Document Existing Codebase Analyzed, reviewed and reverse engineered specific packages (the search client, search engine, scheduler and reporting, portable utilities) from the (Passport control system) as a contractual obligation to the customer (Home Office). The code comprised: Oracle 10i - PL/SQL, Oracle Forms, Pro C, Microsoft Windows C++ using Win32 and MFC using ActiveX, BCrypt and ImageControls, C, Microsoft Windows Shell script. The documentation was initially created using Enterprise Architect to create state diagrams, package diagrams and UML diagrams. This was then exported and the main text authored using Microsoft Word.

**Steria** (Government) Senior Analyst Developer (Security Cleared) 06/2006 – 09/2006

* Project ‘F’ - Windows Server 2003 Active Directory Schema Extension **- d**esigned and developed an extension to the default Microsoft Windows 2003 Exchange Server active directory schema to add new objects and attributes according to requirements.
  + Designed a GUI property page extension for Microsoft Windows 2003 Server using C++, COM, ADSI, MFC and Win32 to enable the system administrator to edit the custom objects and attributes.
* Project ‘F’ - CADI – applied bug fixes and extended the functionality where necessary of a multi threaded transactional application that was to be delivered to the Foreign Office using the following technologies : Windows 2003 Server, Visual Studio .NET 2005, C++, MFC, Win COM, Active Directory Service Interfaces (ADSI), Microsoft SQL Server 2003, Rogue Wave libraries, SQLAPI++.

**EDS** (Defence) Senior Analyst Designer/Developer/Team Lead(Security Cleared) 10/2004 – 06/2006  
Architected and engineered a project in 6 months to provide secure communications between different grades of security system. Completed in time for demonstration at the CWID defence exhibition, for a contract worth at least 1 million pounds. Worked on many solutions in parallel.

* IP Break - designed and developed a solution to provide a reliable connection between networks of differing security levels.
* Platform independent code written in C++ using a proprietary protocol to connect machines running Windows Server 2003 and/or Sun Solaris 10 using a high-speed serial connection (optic fibre).
* Written in C++ on Sun Solaris 10 using Sun Studio and Microsoft Visual Studio on Windows XP using MFC, Win64 and BOOST for file and folder creation event handling.
* Low level interface code written as a DLL for Microsoft Windows Server 2003 using multi-threading to handle the input and output and inter-process communication (IPC) to coordinate data transfer.
* Product was successfully demonstrated to the ‘end customer’ at CWID.
* CHAMPION – Group Mailbox - technical team lead for the latter phase of a utility to provide administration of Access Control Lists for members of groups and their roles.
* The program was to deliver a piece of software written in Microsoft Visual Studio .NET 2003 using C++, MFC and the Microsoft Outlook and Microsoft Exchange libraries.
* Coordinated developer efforts, managed code changes and subsequent testing according to the project sponsors requirements. Interfacing to the project and program manager as necessary.
* BOWMAN – install, configure and script installation and configuration of COTS software. Deliver secure communications translating X.400 to SMTP protocols using the Nexor MTA and related messaging components.
* Ported Symantec Enterprise Firewall for Windows (SEF) configuration from v.7. to, v.8.
* Modified configuration of Clearswift MIMEsweeper content checker to filter additional message types.
* Modified configuration of Boldon James Forms to parse X.400 messages correctly.
* Modified Microsoft Exchange 5.5 configuration for LDAP and X.500 changes.
* Modified Nexor MTA configuration.
* Modified as required Perl scripts that controlled the configuration for each product.
* Nexor Mailer customization (Solaris 8) - added two new message channels. Wrote Perl scripts to convert messages written in ASN.1 containing read receipts to SMTP disposition notification messages and vice versa.
* Wrote message handling system status tools using Bourne shell and Perl scripts. Interfaced to various system tools and Nexor Mailer commands to check the status of the message handling system and the system status as a whole e.g. disk space, processor usage etc.. A summary status screen with alerts in different categories specified by a user configurable parameter file was then displayed. An email was sent to the system administrator mailbox if configured thresholds are exceeded.
* Authored engineering test specifications, system test specifications and detailed design documents to reflect all of the above.
* All code, scripts, test data and documentation was managed by Rational Clearcase and Rational Clearquest.

**Aerosystems International** Senior Developer/Tester (Security Cleared) 06/2004 – 08/2004  
Obtained SC level security clearance.

* AGIS(4MPS) – reviewed code, raising observation reports as necessary.
  + Wrote unit test code using CPP Unit for the base mission planning software modules using Visual Studio C++, MFC, Tenet Maplink and outputting the results as XML data.
  + Update documents to reflect new functionality using Rational Rose and Microsoft Word.
  + Wrote and executed test scripts to test the Apache helicopter mission planning system using change requests from the Telelogic Synergy system.
  + Fed changes that were made in the system back using Telelogic DOORS.

**Direct Insurance** (Insurance) Senior Architect/Developer 01/2004 – 03/2004

* Web Based Insurance Quotation System designed and developed using Macromedia Dreamweaver to allow the recording of client data taken over the telephone by an associate and provide insurance quotations using the Polaris insurance engine. Web pages are served from a Microsoft ASP javascript server. The user is presented with web forms and the data is then saved to an Oracle database on submission. Once it is validated using the Microsoft XML parser and javascript the data is sent to the Polaris RTE for quotations against multiple rule sets. The data can later be retrieved to allow modification and viewing of the clients’ insurance details.

**Dataseek Limited** Senior Architect/Developer 08/2003 – 10/2003

* Television Listings Guide - Specified, designed and wrote a client to a home based wireless pc system written using the Palm OS SDK 5, Metrowerks Codewarrior for Palm OS and tools for a handheld device. The design requirements were to produce a piece of software for a low price wireless enabled handheld device which would be used to replace the existing remote control and add to its functionality. The software uses a wireless link to the pc to download information such as television listings, newspages and books and integrate the listings with remote control functionality.

**Severn Trent Water** (Utilities) Senior Analyst Developer 10/2002–03/2003  
Solely responsible for porting the billing and meter reading system from OS/2 source code with unknown provenance and no documentation onto Windows in 5 months. Saved 1 month from the initial estimates and several hundred thousand pounds compared to over one million from one of STW technical partners.

* Port Severn Trent Water Billing System from OS/2 to Windows 2000 - used to maintain account information and billing for all customers.
* The original code used two IBM OS/2 C/C++ compilers, Intel 80x86 assembly language, built using a command line driven makefile system with no technical or source documentation and no source code control. The original 18 dynamic link libraries for IBM OS/2 were converted into a single dynamic link library for Microsoft Windows using Visual C++, MFC and Win32 buildable in Visual Studio as a project.
* Converted ESL (a screen scraping language), C, assembler and OS/2 windows code where necessary to integrate with the new system. Used HLLAPI to communicate with the mainframe and extensively reworked the code to function correctly under Windows 2000.
* Wrote new technical documentation and build instructions and provide instruction for handover to a permanent member of staff.
* Created a new node in the PVCS repository for the project
* Instructed a member of staff with no prior C/C++ exposure, assigned to support and develop the system in the rudiments of C and Win32 programming and how to use the Microsoft Developer Studio IDE.

**Egg** (Financial Services) Senior Analyst Developer 09/2000 – 02/2002  
Designed and wrote many services and assisted across departments to achieve the required goals. Worked on many solutions in parallel.

* Designed and developed client and server solutions. Wrote functional and technical specifications for those clients and services. Clients were written in C++ for Microsoft Windows NT using MFC. Services were developed in Java and C++, Oracle 8 (PL/SQL) and BEA Topend middleware for Microsoft Windows Server using (MFC) and Sun Solaris using Roguewave libraries,.
* PCMS Dimensions – source code revision automation system – designed and developed a series of scripts using Korn shell, Awk and Sed scripts to automate the source code check in, update and check out process using the PCMS Dimensions commands.
* Email system modifications – isolate and fixed bugs in the Java mail server using the javamail library and associated java beans.
* Cross Sales – targeting of web and call center customer for cross sales possibilities designed and wrote service in C++, PL/SQL and TopEnd on UNIX to place a proposition to an egg customer from a database of propositions driven by a set of rules written in SQL.
* Digimon – digital payment via email – service enabling egg customers to send payments to other parties (whether they were egg customers or not) by notifying their intended recipient via email written in C++, PL/SQL, TopEnd on UNIX.
* Secure Messaging – service written in C++, PL/SQL, TopEnd on UNIX to send notification emails to a customer using email templates (stored in an Oracle database) informing them that there was email awaiting them within the egg web site. The customer upon visiting the web site would, after passing through customer security be able to open the email and create new emails from within the secure web site.
* Manhattan introduced a current account facility to egg customers. Wrote a number of the technical specifications and code for the server applications on written in C++, PL/SQL, TopEnd on UNIX.   
  **Project Details**
* All of the following were written using the following tools Microsoft Visual C++ 6, Microsoft Visual Basic 6, MFC, DCOM, BEA Top End middleware and Oracle 8 to run on Microsoft Windows servers.   
  Section 39 Compliance The bank was required to comply with section 39. The data that was being sent from egg to Equifax needed to be changed to reflect this. I had to write the functional specification, technical specification and code the changes required in Visual Basic to two Visual Basic COM dynamic link libraries.
* Equifax Desktop Client - ported the existing Visual Basic 5 client to Visual C++ and MFC.

Wrote specification based upon existing client functionality as there was no existing documentation. Added additional modification for compliance with section 39. Wrote the functional and technical specification and the code. Interfaced the client to Equifax using Microsoft SNA client over an LU6.2 link to perform a credit reference search. The results from which were saved to the Oracle 8 database.

* Home zone Decompressed streamed XML data from the Marlborough Sterling (MSMS) mortgage quotation system using a library supplied by MSMS. Extracted data from the XML tokens using Apache Xerces library using COM. The data was transferred to Equifax and Experian to perform credit reference checking. The resultant data was returned to the MSMS mortgage quotation system.
* Egg wallet Designed to facilitate easier shopping over the internet by egg customers by using a ‘wallet’ (which was centrally held by a company called Earthport). The server component retrieved data from a recoverable transaction queue (RTQ). It then logged into the Earthport database via a DCOM object (residing at Earthport) which wrapped a VPN connection and transmitted the data to Earthport, to update the customer details on the database.
* Teaching Novices and Inducting New Starters to the middleware team and to the technologies that were used. Guided and instruct those people in how to use them. A program of cross training was also introduced at this time and I was delegated as the person to teach the trainee C/C++ and also give them the technologies foundation needed to become a new team member.

**Tanning Technology** (Shipping) Senior Analyst Developer 03/2000 – 09/2000  
Wrote and designed documentation and code for services to support migration from the IBM mainframe system to a UNIX minicomputer.

* Maersk Container Management System – an ‘n’ tier middleware client server architecture project for the Maersk Shipping Company written in C++ on SUN Solaris UNIX.
* Created middleware services using C++, STL and RogueWave libraries (Tools++ and DBTools) interfacing to an Oracle database. All transactions had to be mirrored to the mainframe using CICS.
* Produced design documents from functional specifications using Microsoft Word and Rational Rose. Then after review of the documentation, code the particular piece of functionality required. The clearcase version control system was used in development and purify was used to detect any extraneous memory references and detect memory leaks.

**SKS** (Education) Senior Analyst Developer 02/2000 - 03/2000

* Create database and services for Staffordshire University Careers Internet site - created an extract of a SQL Server database (containing careers data) using DTS packages and insert the data into an online Microsoft Access database schema I created to be accessed through a web interface by university students. The system administrator was able to schedule the DTS package to be run any time a database update was required. The exported data was accessed by the web using Microsoft Active Server Pages (ASP) written in VBscript and HTML to render data to the student extracted from the database using ActiveX data objects (ADO).

**Prudential Bank** (Financial Services) Senior Designer/Analyst Developer 04/1998 - 12/1999  
Working on solutions in parallel, designed and implemented many of the early infrastructure for the server systems for Egg. The automated, data driven client/server test system I designed and wrote replaced hard coded discrete programs that were used at the time. Thereby saving development costs and test lead-time as readily creatable test data was required.

* Egg Card The Egg project was the now much publicised Egg credit card. I was required to write client and server processes that dealt with Egg card applications. The services were all Solaris UNIX based TopEnd middleware application components and written using the Sun Workshop product in C and C++ and interfacing to the Oracle database using Pro\*C. Whilst developing the components they were compiled using the Purify software program to detect all memory leaks and potential array bounds errors etc.   
  The daily application processing components that I wrote updated the Egg card Oracle database tables, whilst the statement servicing components communicated through the TopEnd LU6.2 interface to talk to the AS/400 which sent and received updated data from FDR (First Data Resources) the company with whom Egg had the agreement to provide services to Egg for maintaining account data for the Egg card.
* All the following server services were written for the windows platform using C++ and MFC interfacing to the Top End middleware api.
* Insurance quotation system Insurance quotation server was written around the industry standard Polaris ProductWriter API to provide household insurance quotations mainly for existing mortgage owners.
* PAF (Postal address finder) This middleware component service returns the postcode and address/name data using the GB Mail IMTK API.
* BankWizard (Bank account information service) Middleware component service that returns postcode and address/name data for Banks and building societies when supplied with either sort code for the bank or sort code plus account number. It interfaced to the Eiger Systems BankWizard API.
* Stress test egg middleware system services – wrote test scripts for Loadrunnner and Testdirector Stress test the middleware systems through Topend. Wrote a series of scripts using the LoadRunner system controlled by the TestDirector package around the Generic client test program. This allowed for approximately 60 virtual users to each machine to access the back end processes as if they were accessing these systems through the internet.
* Generic Client (Internal testing software) Custom piece of middleware application component testing software I designed and coded. This was a piece of client software designed to test any middleware service which was in use in the bank. It read a file containing test data and a file describing the data structure of the service to which the data was to be sent. The data was then formatted for the according to the rules of the data structure and sent to the service. The program could test all services for success and failure conditions and determine whether or not the services were available and report their status. In order to increase the platforms on which the Generic Client could run I ported it across to Solaris UNIX and proceeded to write a Motif interface. I converted the core module ported from the Windows NT dynamic link library into a shared library for UNIX. It was able to retain the same method of invocation and use as it featured under Windows NT.

**Preceding Work Available on request**

**Certifications**

Embedded UML Designer 06/2015

Security cleared - SC 06/2004

Trained to CMMI level 4. 05/2004

Certified developer and system administrator in Top End Middleware (NCR) 04/1998

**Qualifications**

HND Computer Studies De Montfort University 1986